The Iron A

READING MATTER PAGE 32.

A Review of the Hardware, Iron and Metal Trades.

ADVERTISEMENTS PAGE 19

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of its simplicity and low cost, and its adaptability to all places where it is desirable to handle heavy weights cheaply and rapidly. It consists of a cylinder whose lower end is

closed, while the upper end is closed, while the upper end is open. The piston-rod terminates outside of the cylinder in a suitable eye, to which grapnels or chains are attached. The cylinder is hung upon gimbals and mounted upon a frictionless truck, which travels backward and forward upon the jibs of an ordinary. ward upon the jibs of an ordinary foundry crane. This crane is framed in a simple manner of iron framed in a simple manner of iron or wood, as may be preferred. The gudgeons of the crane are made hollow. Through the top gudgeon a steam-pipe is led to a suitable valve arrangement. From this valve one pipe leads down through the better gudgeon while another.

valve arrangement. From this valve one pipe leads down through the bottom gudgeon, while another passes up to the jibs of the crane. The end of this latter pipe is connected to the lower end of the cylinder by a flexible pipe or a short section of steam hose. This flexible pipe permits the cylinder to travel in and out upon the jib, and thus control all the floor space covered by the radius of the crane.

To operate the crane the weight is attached to grapnels on the piston-rod and steam is admitted under the piston. The weight is immediately raised and may be swung to any desired point. To lower the weight the steam in the cylinder is exhausted through the bottom gudgeon. The work is under full control of the operator at the valve. Fig. 1 represents a blast-furnace derrick crane, and Fig. 2 as used in wire works over the annealing in wire works over the annealing pots. In adopting their crane for the use of blast furnaces in handling hot cinders, Messrs. Ridgway have found it desirable to transform it into an hydraulic crane. In this case, instead of bringing steam in case, instead of bringing steam in through the top gudgeon, they place in the ground, in close proximity to the crane, a second cylinder of somewhat larger capacity than the lifting cylinder hung upon the jibs. A pipe passes from the bottom of the ground cylinder up through the bottom gudgeon of the crane, and is carried through a swivel stuffing-box in the post and up to the jibs of the crane, where it is connected to the lifting cylinder by a flexible pipe as before. The upper end of the ground cylinder is closed and has a steam-pipe and an exhaust-pipe, controlled by suitable valves entering it. The cylinder is filled with water. pipe, controlled by suitable valves en-tering it. The cylinder is filled with water. To operate the crane steam is admitted on top of the water, forcing it through the pipe leading to the lifting cylinder, where it raises the weight. The lifting speed raises the weight. The lifting speed is controlled entirely by the size of the pipe connecting the two cylinders. To lower, the steam is exhausted from the ground cylinder and the water flows back, due to gravity, and the same water is used over and over again. Quite a number of these cranes are in use, their simplicity, durability and low cost having secured a most favorable reception for them.

The Bull Rock Lighthouse.

reception for them.

About 20 miles west of Castle About 20 miles west of caste-town Berehaven, Ireland, lately se-lected as a station for the British navy, lies the Calf Rock, and 3 miles to the northwest is situated the Bull, where the Government are at present erecting a lighthouse to replace that of the Calf Rock, which was swept away in the great was swept away in the great storm three years ago. A steamer belonging to the Board of Lights conveys the workmen from Castletown to the Bull Rock, but so dangerous is the approach in conse-quence of the swift currents which prevail here, and which make the rock, even in the calmest weather, rock, even in the cames weather, a very Scylla to modern navigators, that ordinary visitors are forbidden by a board order from essaying the dangerous passage. By driving

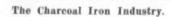
The Lake Superior Ore Districts.

A correspondent of the Pittsburgh Chronicle-Telegraph, writing from Marquette, Mich.,

The Ridgway Direct-Acting Cranes.

The accompanying engravings show some of the arrangements and applications of a very simple form of crane turned out by Messrs. Craig Ridgway & Son, of Coatesville, Pa. The crane is striking on account of its simplicity and low cost and its adort. ward this year cannot amount to more than a cargo or two, as the shipping season will close shortly after the date fixed for the railroad to strike the lakes. Those interested in the new field intend to make a good show-

American Products in Chili.-Circulars containing the announcement of a permanent exhibition of American manufacing next season, however, and your correspondent sees no reason why that district should not be heard from loudly next year, by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season why that district by the Chilian Government, are being disjoint of the season which is the season which is



The August number of the Journal of the United States Association of Charcoal Iron Workers contained an article on the "Present Condition of the Charcoal Iron Industry,"

a part of which we reprint: Grades of any commodity which command special trade by reason of peculiarities of manufacture, or on account of well-defined

charcoal pig iron or blooms generally come under the head of such special manufactures, it is not sur-prising that in the present de-pressed times those who produce charcoal iron should draw dark pictures of the future and become pictures of the future and become profits of evil against themselves, because the proportionate decline has been greater in their specialty than in many others. So severe has been the blow which has lately fallen on this industry that some of its former ardent champions have predicted its early extinction. We have no faith and but little patience in such statements, for as long as the great wastes of the lumong as the great wastes of the lumber industry continue, as long as tan-bark is stripped, as long as railroad sills or telegraph poles are cut, or as long as no general system of reforestration is adopted and en-forced over the entire nation, there will be ample waste word to make charcoal sufficient to smelt millions of tons of pig iron annually. The problem is, shall this waste be allowed to rot in the woods and form nuclei for ravaging forest fires, or shall it be converted into fuel which has no superior for smelting iron ores in the blast furnace.

Of the timber matured and approaching maturity there is much which, owing to want of proper care, will be fit for nothing but fuel; but we do not hesitate to recognize the fact that much of the wood now cut for making charges. wood now cut for making charcoal ould be useful for other purposes; would be useful for other purposes; the quantity, however, bears a very small relation to that wasted in manufacturing, &c., and which would make good charcoal. We believe that if a judicious plan of collecting the wood and improved methods of carbonization were employed, charcoal pig iron can be ployed, charcoal pig iron can be made to-day as cheap as iron smelted with mineral fuel from the smelted with mineral fuel from the same ores at either Chicago, Milwaukee, Detroit, Cleveland, Buffalo, New York, Philadelphia or Baltimore. A judicious selection from timber now wasted, an equipment of light railroad, such as was described in *Journal*, Vol. V, p. 177, and a system of water transportation from termini of railroads. portation from termini of railroads. portation from termini or rainvale, would deliver wood from consid-erable distances at any of the above-mentioned cities at figures which will permit of economic op-eration if improved methods of eration if improved methods of carbonization and collecting the acetic vapors are adopted. Yet, acetic vapors are adopted. Yet, while it is possible to make charcoal pig iron competitively at points where water transportation is to be had, there will, undoubtedly, be numerous cases where existing iron works, some hoary with age, or landmarks of long standing, will never be active again. The charcoal iron industry will live as long as it keeps pace with advances in other branches of metallurgy, but it has passed the time when any talismanic value is connected with the word charcoal. Carelessness in detail in some furnaces using mineral fuel, and conscientious ad-herence to certain ores by many charcoal ironworkers, made the word charcoal synonymous with superior, and as long as this syno-nym is sustained, so long will the merit of charcoal iron be appreciated. It is not to be expected that

financial success will attend ven-tures such as are attempted by some works; we know of cases where wood is cut from land worth wood is cut from land worth \$75 to \$100 per acre, when cleared, but to \$100 per acre, when cleared, but is allowed to grow up in forests, and about 30 cords per acre are cut. This wood is all coaled in meilers, and not more than 30 bushels of charcoal per cord are obtained. While under these circumber retarting of the preparaty in time.

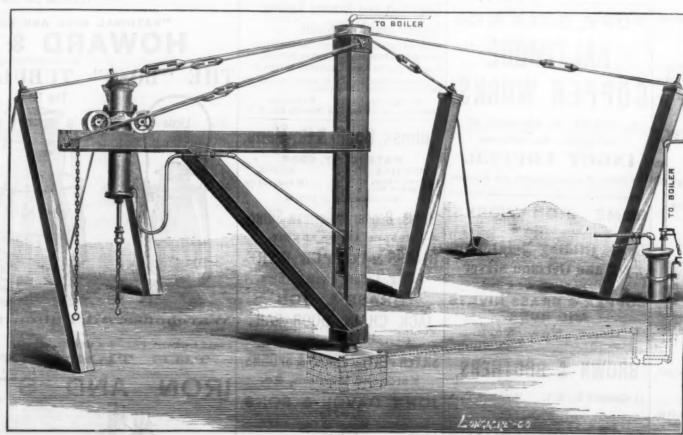


Fig. 1 .- Blast Furnace Derrick Crane.

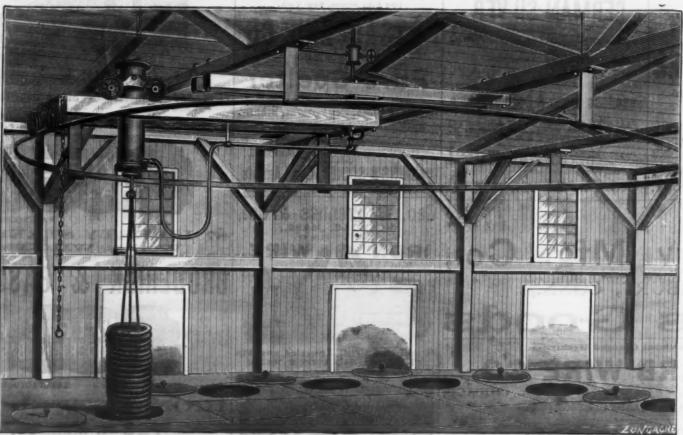


Fig. 2.—Crane for Annealing Pots in Wire Works.

DIRECT-ACTING CRANES, MANUFACTURED BY CRAIG RIDGWAY & SON, COATESVILLE, PA.

by a board order from essaying the dangerous passage. By driving from Castletown to Dursey Sound, a journey of about 15 miles, one may get a good idea of the boon the light will prove to storm-tossed mariners, by observing the inhospitable nature of the coast of which it is to serve as a beacon. The coast presents to serve as a beacon of the light will be opened up on the south shore of Lake Superior region, for horditary and the sensible of charcoal is as there is plenty of ore there, and much of this of fine quality."

With reference to the future, the writer evidently has very great faith in the advantance of the coast of which it is of fine quality."

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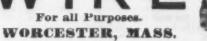
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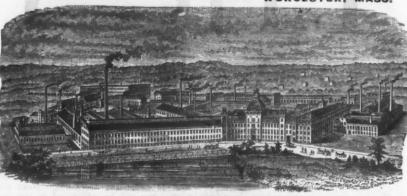


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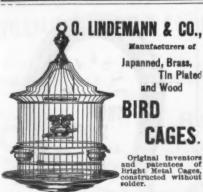
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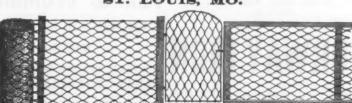
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sumed that such a plant could be operated successfully in depressed times. There are other works which pursue the most approved methods in their practice in smelting ores, producing charcoal, &c., and are able to keep ahead even with the low prices ruling. We do not say that these works are earning a fair return; we do not think they are, for we have always felt that an investor was entitled to the advantages due to his location, whether they be natural or artificial, discovered by exploitation, discerned by business foresight, or developed by outside causes. Besides this, one who invests in iron manufacture, with all its attendant risks of dull trade, large stocks of raw materials, business failures, fires (a considerable item, particularly to the charcoal ironworker) labor troubles, &c., is entitled to more than legal interest on his capital, in addition to such advantages of location as nature has given him, or his pluck has developed. There are some plants idle to-day which, we believe, could be operared at a profit on present quotations, and others are active which do not seem to possess any special advantages; but, generally speaking, the charcoal iron trade is remarkably quiet, with but little immediate cause for encouragement.

We have frequently asserted, and we firmly believe, that the iron trade of the United States is sufficiently sensitive to care for itself, and that, practically, its only disturbing cause is importations of foreign iron and steel. We manufacture or produce little, if any, more than our country consumes, but the annual statements of stocks in makers' hands bear a surprisingly close relation to the annual amount of iron imported. Cheap railroad transportation has lately somewhat changed the status of the various iron-producing districts, and the furnaces near the Atlantic seaboard have found Southern and Western pig iron delivered in competition with their own product in what they considered "home markets." Some of this metal has been transported at rates upon which there appears no possible margin of profit for the carrier; but a railroad which delivers to furnaces the raw material at profitable rates may well afford to carry Old Rails, Wrought and Cast the product for a nominal sum, so as to keep Scrap, Iron and Steel Blooms the furnace in operation by giving its iron access to more remote markets. It is not access to more remote markets. It is not now unusual to find Alabama or Michigan charcoal pig iron offered for sale in Boston, New York, Philadelphia or Baltimore, so that a considerable proportion of the trade which has kept some Western and Southern charcoal furnaces in blast has been captured, by means of business energy and low railroad freights, from other furnaces in the

The general falling off in demand natu-The general falling off in demand naturally made the producers of pig iron who use mineral fuel seek all possible avenues of trade, and consequently they have invaded what the charcoal ironworkers have been pleased to consider as their special fields. In some of the supposed special fields certain grades of iron made with mineral fuel have undoubtedly given satisfactory results; in others the attempts have been unsuccessful. cessful.

The great steel works have found that other manufactures besides rails were necessary to maintain their plants in activity, and many who assume that any steel is better than any iron immediately announced that "the steel age has come, and that iron is a manufacture of the past." We realize what an influence upon the industrial prog-ress of the nation the steel works have had; we appreciate the economy of the methods employed, by which no halts or intervals are permitted, but the processes are continuous, and we understand the merit of homogeniety in metal, and, therefore, do not underesti-mate the advantages which steel possesses, nor what has to be accomplished to successfully compete with steel manufactures. But we are aware that there is no well-defined border land between iron and steel; neither physical tests nor chemical analyses can definitely determine what is iron or what is steel. The investigations of Dudley, Sandberg and others prove that the nearer the composition of first-quality wrought iron is approached the better the steel is adapted for railway service.

The safe commercial limits of tensile strain for cast-steel boiler plate is but little beyond the test demanded by the United States Government for charcoal hammered iron. The modern tendency is to limit the use of steel for structural purposes to the milder grades of the material. For steel in steamships the United States Government specifies tenacity of not less than 60,000 or not over 70,000 pounds per square inch, with an elongation of at least 16 per cent. in 8 inches. All of these circumstances seem to indicate that charcoal iron, to have a future, must depend upon quality of product and economies of manufacture solely. By careful selection of ores, judicious manufac-ture of charcoal and careful management, the output of charcoal blast furnaces should be no more expensive than mineral-fuel iron. This point secured, any superiority of composition will bring an enhanced of composition will bring an enhanced

The charcoal iron industry is in no worse condition than most other branches of met-allurgy, although the proportionate fall in prices has been greater, because of the special uses for the product. Whether the output of our furnaces in the future is required for the manufacture of iron or steel, quired for the manufacture of iron or steel, superiority of product will command trade and generally bring remunerative prices, and it would appear that the true policy of the manufacturers of charcoal iron at present is to carefully study the details of each individual plant. If saws can replace axes, and 10 per cent. of the wood be saved; if greater yields in bushels of charcoal per cord of wood can be secured; if cleaner or richer of wood can be secured; if cleaner or richer ores and remodeling of furnaces permit of reducing the fuel consumption per ton of iron, and if better administration and increased output reduces the labor, superin-tendence and interest per ton, a step in the right direction will have been taken,

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The train of foliers is composed and street pairs, one roller in each pair there or more pairs, one roller in each pair there or more pairs, one roller in each pair the second and the other tongued or male roller is on the first pair the tongued or male roller is on the first pair th

METALLURGICAL NOTES.

Steel High in Manganese. A patent has been granted to Mr. Robert Hadfield, of Sheffield, England that relates to further improvements in his newly-discovered treatment of steel with high percentages of manganese. His earlier patent had reference to the treatment of steel with percentages of manganese varying from 7 to 20 per cent. The present improvements relate to a further development of this principle of treatment and consist in adding the ordinary ferromanganese of commerce to iron either wholly or partially decarbonized and refined by any of the ordinary processes, or to steel in increased proportions sufficient to produce in the steel or decarbonized iron a percentage of manganese varying from 20 to 30 per cent., the amount being regulated according to the purposes for which the steel is required. He uses by preference a ferromanganese containing as high a percentage of manganese as possible, but low in carbon, silicon and other foreign bodies. To carry out this modified treatment he takes ferromanganese in suitable proportions, according to the percentage of manganese required in the steel. He then carefully melts it in a furnace, after which he pours it into the nurace, after which he pours it into the molten steel or iron. He next thoroughly blends it into one homogeneous mass by stirring or rabbling, after which the steel is run into ingot molds. The distinctive advantages claimed of employing such increased percentages of manganese exceeding 20 and up to 30 per cent. as against percentages varying from 1 to 20 per cent. ages varying from 7 to 20 per cent. are, first, that it is free from the fibrous condition in steel manufactured with such lower percentages; second, that considerably increased hardness combined with extreme toughness are obtained in the steel so manufactured. In addition to these advantages it possesses great fluidity and soundness from honey-comb and other defects, thus enabling cast ings to be made with great uniformity and regularity, and it requires neither tempering, rolling, forging nor hammering. The use of silicon to obtain soundness is also un The necessary. Such steel is particularly adapted for casting safes complete or for casting the linings of safes, railway wheels, armor face plates, rolls to replace those of chilled cast iron, and many other purposes

where excessive hardness combined with extreme toughness is requisite. where excessive hardness combined with extreme toughness is requisite.

A Basic Bessemer Blow.

During a recent excursion of the South Staffordshire Institute of Iron and Steel Works' Managers to Bilston, a blow in one of the three Bessemer basic converters of the Staffordshire Steel and Ingot Iron Company was witnessed. Into the converter some 6 tons of molten metal, obtained from one of the adjoining cupolas, had been poured. The pigs used in the cupola were of a white appearance, and contained 2½ per cent. of phosphorous, 3 per cent. of managanese, I per cent. of silicon, .05 of sulphur. About an hour had been occupied in melting them down in the cupola. Previous to the About an nour had been occupied in meting them down in the cupola. Previous to the converter being charged it received some 18 cwt. of lime. The first blow in the converter occupied some 20 minutes, and when the flame showed that most of the impurities had be n eliminated the after-blow was begun and occupied about four or five minutes. of rolled steel.

tical ironmakers, who are in increasing numbers taking a lively interest in this cheap steel-making, far more than now will have been accomplished. He has the confident anticipation of being able by-and-by to produce basic steel that shall answer every

purpose now served by good quality Staf-fordshire iron. Plant and Processes.

claimed to possess superior lasting qualities, has been invented by P. Wilkes, of Trenton, N. J. The pot is made of a mixture of iron and steel in the proportion about of one part of steel to nine parts of iron. It is cast into cylindrical form and has proper sand joints formed at the top and bottom. Teats or spurs project over its whole interior surface and extend in varions directions. They form the means of securing a coating of sand or fire clay in positions to develop the pot heated and steam also generated. or fire clay in positions to develop the pot and protect it from the direct action of the purpose channels or pines are protected. For this purpose channels or pines are protected and steam also generated.

eversing the position of the male and female rollers in relation to the band which is rolled, the fins formed at the sides of the tongue of the male roller of one pair will enter the bottom of the groove of the female roller of the next pair, and will be removed or compressed into the body of the band. The rollers of the last pair are plain and are intended merely to finish the band. The rollers are mounted in any suitable framework, and are rotated at a proper speed in the usual manner.

A regenerative steel furnace of novel A regenerative steel furnace of novel construction has been invented by W. G. Bell, of Alleghany City, Pa. The courses of brickwork composing the converging side walls are built on a flat key toward the fire-chamber, so that in case of shrinkage of the furnace the courses, not being arched, will settle down and prevent the formation of a space for the entrance of the flame and gases behind the wall. The heat from the fire-chamber shrinks the convergent side walls, and, as there is no arch to support the convergent side walls, they sink down upon the piers, without leaving a space behind the walls or above the piers. Tubular port liners extend from the regenerator flues and fit within the furnace port or flue to prevent the gases from escaping through the piers or walls above the ports. The port liners are provided with one or more division walls which separate the air and gas until they reach the proper point to create the greatest heat within the fire-chamber.

A train for rolling metals has been patented by W. A. Sweet, of Syracuse, N.Y. The rollers are placed in pairs, and receive motion by belt and pulley connection from the driving shaft. The heated rod is passed through the first pair of rollers, and then fed through the usual trough to the second pair. through the usual trough to the second pair. These rollers are smaller in diameter than the first pair, but are speeded up so that their velocity is greater than the first to about the degree that the rod has been elongated in passing through the preceding rollers. The process is thus repeated through a train sufficient to reduce the rod to the size required each rollers described. required, each pair of rollers decreasing in size successively with increasing circumferential velocity to take up the elongation of the rod. It is stated by the inventor that by this arrangement the temperature of the rod is kept up throughout the process to a greater degree than heretofore.

A new process of preparing old steel rails

mass of steel. The damper is then closed and the blast shut off. This will quickly reduce the heat of the pile, and a solid and compact pile will be formed. After this has been attained the heat is again increased until the pile is brought to a steel heat, when it is ready for reworking into a new article

the flame showed that most of the impurities had be n eliminated the after-blow was begun, and occupied about four or five minutes. Several succeeding samples were now taken out with a ladie, blowing being resumed between each sample until the required degree of purity was obtained. The blast was at length finally turned off, and 70 or 30 pounds of ferromanganese were added to the converter. A great part of the slag having been poured off, the contents of the converter were discharged into a ladle worked upon a hydraulic crane, the weight of steel being, it was entimated, about 5 tons. Through a brick valve at the bottom of the ladle six ingot molds were filled, and when they had been sealed down were left to cool. Afterward the visitors proceeded to the cogging and plate mills. Here oval ingots obtained from previous blowings were put straight through the reheating furnace, since the company have not yet brought into use the double set of Gjer's soaking-pits which they have laid down in close proximity to the mills. One ingot, 18 inches wide by 10 inches thick by 3 feet 6 inches long, rolled into a plate which, after being sheared, was 26 feet long by 3 feet 6 inches wide by 34 inch thick

converter of calcined tap-cinder from pud-dling furnaces and the slag from hammer visitors that the plates from each blow were tested before being sent out from the works, and that if they were found to be defective they were cut up. Mr. Gilchrist freely asserts that there is a great deal yet to be done to bring the process to a still greater state of perfection. He hopes that in a few years, with the assistance and knowledge of practical ironmakers, who are in increasing number of the impurities, by combining with a moist condition. In treating low-grade pig iron the impurities, by combining with the hydrochloric acid, line and salt, it is

Claimed, will be eliminated

A damper or wind-valve patented by F.

H. Cathcart, of Alexandria, Va., has for its
object the regulation of the current of air supplied to a blast furnace. The damper consists of two flat and slightly hollowed pieces or shells of metal having around their edges a continuous groove or furrow. When the shells are placed in the supply-pipe of a

purpose channels or pipes are provided in the upper part of the apparatus for utilizing the radiating heat. Through these channels for confining the heat surrounds the pot.

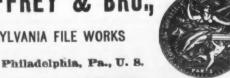
W. H. Griffiths, of Worcester, Mass., has patented an apparatus for rolling metal bands by passing the billets continuously through a series of rollers, instead of passing them back and forth through different them back and forth through different into water-gas, which transformation can be grooves. The train of rollers is composed of three or work pairs are substituted by forcing the steam either three or work pairs are substituted.

Paris, 1878.

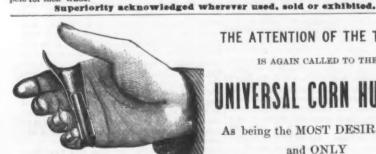


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W. A. Sweet, of Syracuse, N. Y., has constructed an apparatus intended in wire-rolling to insure the proper reeling automatwhich the wire can be delivered. As the wire is running off from the last pair of rolls it passes through a spout that guides it to the reel. This reel consists of a hollow rim of thin metal fastened to a face plate which is keyed to a revolving shaft. The rim is made in two parts, one being conical and the other cylindrical. The rim receives and throws the end of the wire in a curve against the face plate, where it winds into a com-pact coil within the cylindrical part of the rim, which can then be readily detached to discharge the coil of wire.

An apparatus for preventing metal bars when rolled from running over the floor is made as follows: On each side of a train of made as follows: On each side of a train of rollers is placed a receiver consisting of a straight tube of metal having a flaring mouth which curves upward and opens opposite the rollers, so that the rod enters the mouth and runs down into the tube, which is buried beneath the floor. This de-vice also prevents the rod from coming in contact with the workman, keeps it clean, retains the heat and holds it straight. The inventor, W. A. Sweet, of Syracuse, N. Y., prefers to place into the receiver a quantity of carbonaceous material. This ignites on the introduction of the rod and fills the tube with carbon vapor that envelopes the rod. In operation the rod runs from the rollers into the mouth of the receiver until its rear end leaves it; it is then seized by the operator and returned in the usual way to the rollers, passing through in the opposite

New Inventions.

J. Chase, of Rochester, N. Y., has patented a vertically adjustable chandelier which is provided with an automatically locking and releasing clamp. The chandelier is composed of two telescoping pipes, the inner and lower pipe carrying at its upper end a spring clamp that may be operated by a wire running down the pipe and connected to a knob at the bottom. The construction of the clamp is such that the more weight of the clamp is such that the more weight there is to the chandelier the tighter will it bite and bind the parts together. As the knob is pulled down the spring is contracted and the clamp released, when the lower pipe is free to slide down. The release of the knob will cause instantaneous relocking

of the parts.

A wire fence patented by A. G. Hulbert, of St. Louis, Mo., has the body wires connected to one another and to the selvage wires by a simple ring or coil tightly wound around the contact points. The coils are composed of flat metal strips or plates, and may be made with projecting ends to form barbs. In the manufacture of the fencing all the wires are drawn from stationary spools parallel to a reel on which the finished fabric is to be wound, and the binders are clinched on by a hand tool to form the junctions of the wires. The binders are tightly compressed in the act of clinching, and in this way the wires are sufficiently bent to prevent the sliding of the binders thereon.

A miners' safety-lamp for burning volatile hydrocarbon oils has been patented by C. Wolf, of Zwickau, and H. Friemann, of Eisleben, Germany. Heretofore heavy non-volatile oils and fatty substances have been exclusively burned in miners' safety-lamps, because such oils and fats reduced the danger of explosion. But these substances cause a deposit of carbon particles upon the wire gauge when the wick is turned up too high, which, becoming heated, ignites the fire-damp on the outside. With volatile oils, on the other hand, the turning up of the wick causes a rapid and excessive formthe wick causes a rapid and excessive formthe wick causes a rapid and excessive formation of vapors which prevent the entrance of air to the burner and soon extinguish the lamp. The lamp is provided with a perforated tube around the wick tube, and the space between the perforated tube and the bowl of the lamp is filled with cotton or other absorbent whereby the accumulation of vapors is prevented. A percussion attachment enables the lighting of the lamp without opening the same or without compelling the miner to leave the mine for the purpose of relighting it. relighting it.
E. Bouhey, of Paris, France, has patented

especially adapted to chamfer the edges of boiler and other plates, so that they are in proper condition to be soldered, brazed or welded.

An ore concentrator for washing, concentrating and separating ores has been patented by W. B. Kennedy and W. M. Nesbit, of Silver Reef, Utah Ter. Along

the piston rises, gradually closes the air-cock.
In this way the resistance offered to the piston by the air above it is gradually increased. The extent of the gradual closing in surface, and also as a carrier or scraper

of the cock is governed by the inclination given to the guide-bar, but in no case should the cock be caused to entirely cut off the ically from the rolls at the highest velocity at air. As the piston descends the cock is re-

opened.

J. W. Bailey, of Denver, Col., has patented an ore pulverizer of the following construction: Through the center of the pan extends upwardly a muller carrying at its lower end a disk having radial slots. An annular a disk having radial slots. An annular sectional bar rests upon the disk and has depending lugs which occupy positions transversely to the slots and prevent vertical movement of the sections on the muller disk. A series of cylinders are arranged in a circle within the pan in proximity to a small an-nular band which is in contact with the sides of the pan. As the muller and disk are rotated the sections of the bar above are thrown out of the slots and brought in contact with the sides of the cylinders, imparting rotary motion to them. This arrangement results in securing for each cylinder four points of its periphery where the grinding action takes place—one against the bar, two against the adjoining cylinders and one against the band. Thus a high grinding capacity is secured for each cylinder, and, moreover, obstructions may pass between the grinding surfaces without interfering with the continuous operation of the machine.

A new ore separator is composed of three

water compartments placed side by side, one higher than the other. Above each compartment is a perforated tray having at one end a riffle board which projects into the adjoining compartment. In front of each riffle board there is formed in the tray an opening covered with coarse screen and containing shot or sand. The stock is placed containing shot or sand. The stock is placed on the highest tray, and is fed forward by means of a series of shocks, imparted by suitable machinery, which will cause the stock to be spread on the tray and to travel toward the riffle board. As the stock reaches the opening in the tray, the first grade ore overcomes the pressure of water, and works its way through the shot, so as to drop upon the bettom of the convertment. the bottom of the compartment. The re-mainder of the stock floats over the rifle board and drops upon the tray of the second compartment, where the second-grade ore will be separated in a similar way. will be separated in a similar way. What is now left passes upon the third tray, where the third-grade ore is separated, while the residue is floated off. J. W. Bailey, of Denver, Col., is the patentee of this separator.

J. D. Huntington, of Chicago, Ill., is the patentee of an ore crusher of the following construction: Upon a solid upright rosts.

construction: Upon a solid upright rests a truncated conical crushing head. A case surrounds the crushing head, and is supported top by a ball upon which it rests, and which is in turn supported by the upper edge of the crushing head. At the bottom the case has suitable discharge openings. Motion is imparted to the case by bevel-gear connection in such a way that it revolves in an eccentric curve around the crushing head. The crushed particles of ore fall through the discharge openings and drop upon an incline which conducts them to a suitable receptacle.

An ore-jigger for cleaning and separating ores has been patented by B. F. Cruzan and J. J. Robinson, of Webb City, Mo. It contains a plunging sieve placed within one end of an oblong tank. Above the sieve are a series of parallel fixed partitions which are series of parallel fixed partitions which are in contact with a series of adjustable partitions, so arranged that the partition walls may be made higher if desired. The discharge holes in the sieve-frame have semicircular guards and sliding-valves. When the sieve is raised a flexible pole is slightly bent, and when the downward motion begins the sudden straightening of the pole will the sudden straightening of the pole will give a jerk to the sieve and loosen the mass therein, to be better acted upon by the plunger. The cleansed and separated ore sinks to the bed, passes under the guards and gradually rises within them, till discharged through chutes into a narrow compartment formed along one side of the tank.

M. B. Dodge, of San Francisco, Cal., has patented a revolving ore-roasting furnace. The body of this furnace is set on a horizontal plane, and is not made cylindrical, as is customary, but with six or eight sides.

is customary, but with six or eight sides.

Each of the sides is slightly rounded, so as to hold the brick lining properly in place.

At each end of the roasting cylinder there is a flange, provided respectively with the feed and discharge opening. The discharge opening is larger than the feed opening, in order that the one when being fed continuously. E. Bouhey, of Paris, France, has patented a machine for chamfering sheet-metal plates. The machine is so constructed that it will chamfer or bevel the edges of the plates with accuracy without requiring the sheets to be first flattened and clamped on a bed or table. The cutting tool, having any desired bevel, is made to follow all the undulations of the sheet by means of a guide attached to the tool-holder and embracing the edge of the sheet operated upon. The sheet abuts against cleats fixed to the bed of the machine is sist the force of the tool. The machine is sist the force of the tool. The machine is sist the force of the tool or the discharge opening. The discharge opening is larger than the feed opening. In order that the ore, when being fed continuously will be discharged automatically without employing conveyers or other internal obstructions to the free action of the ore. As the body of the furnace is rotated, the heat and flame pass through the discharge opening in an opposite direction to the travel of the ore. The furnace may be either charged continuously through a hopper or from time to time through a door.

Some are the discharge opening. The discharge opening is larger than the feed opening, in order that the ore, when being fed continuously will be discharged automatically without employing conveyers or other internal obstructions to the free action of the ore. As the body of the furnace is rotated, the heat and flame pass through the discharge opening is larger than the feed opening, in order that the ore, when being fed continuously will be discharge automatically without employing conveyers or other internal obstructions to the free action of the ore. As the body of the furnace is rotated, the heat and flame pass through the discharge opening is larger than the feed opening, in order that the ore, when being fed continuously will be discharged automatically without employing conveyers or other internal obstructions to the free action of the fed opening.

> welded.
> The Jarvis Engineering Company, of Boston, Mass., are the assignees of the patent right in a new furnace. The walls of the furnace are provided with air-heating passages through which the air is admitted to the combustion chamber above the fuel.
>
> Nesbit, of Suver Reef, Utan 1er. Along the upper part of any suitable long box or estimates of any suitable long box or sluiceway are arranged a series of agitators and along its lower portion another series of wings are arranged to form eddies and whirlpools which effect the to the combustion chamber above the fuel. passages through which the air is admitted to the combustion chamber above the fuel. The heated air combines with the partially-consumed gases and smoke arising from the fuel, and produces perfect combustion. The heating passages are connected with an air-forcing apparatus, which is controlled by a Between the lower governor and the upper forcing apparatus, which is controlled by a valve or cock working in unison with the damper in the escape-flue. Thus the escape of the products of combustion is increased or decreased in proportion to the amount of air admitted. The furnace will therefore always work freely, and the fire will be under complete control.
>
> A damper regulator patented by R. Thompson, of New York City, offers a gradually-increasing resistance to the rising piston that controls the damper. This is accomplished by supplying the cylinder at the top with a regulating air-cock just above the highest point the piston reaches. The cock has a discharge nozzle, so that any

water that may accumulate above the piston is affixed an arm or guide-bar, which, as

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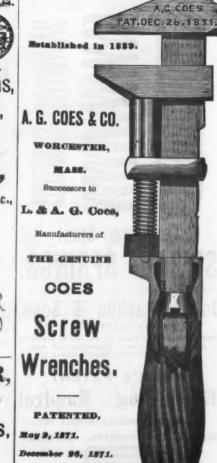
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CATALOGUES ON APPLICATION.

to move the upper part or stratum of the pulp off from the concentrating surface at its tail end. The scraper is produced by bending up strips of sheet metal and fasten-ing them to runner belts of leather, rubber or other suitable material. In this machine the movement and flow of the water and lighter matter are effected mainly by the action of the traveling scrapers, so that an even distribution of the pulp of uniform depth is maintained over the concentrating surface, and so that the worthless matter is constantly worked against the travel of the belt and discharged from the tail spout.

A new mode of making wrench forgings out of the commercial bars of iron or steel is as follows: Take commercial bars substantially rectangular in cross-section, with greater width than thickness, and cut them, cold or hot, into the lengths or bar sections. Then, by suitable cutting dies, cut these bar Then, by suitable cutting dies, cut these bar sections into two corresponding L-shaped blanks. Then heat the larger end of the blank to a forging heat and place it in a holding die which has a head matrix and a bar matrix. A heading die is then advanced, upsetting the enlarged end of the blank and forcing the metal to fill the head matrix, after which the heading die retreats to its normal position of rest. Practically, the amount of stock in the enlarged end of the blank should be slightly in excess of the amount required for the head of the forging in order to insure the complete and entire in order to insure the complete and entire filling of the head matrix. The excess will form a fin on the forging, which is afterward trimmed off. The Collins Company, of Collinsville, Conn., have patented the above method.

An apparatus for concentrating gold, sil ver, sulphurets, amalgam and other valuable substances has been patented by E. Koch, of San Francisco, Cal. It consists of a circular sectional table having chambers parallel with the outer sides of the sections and extending toward the center. Each chamber has a the outer sides of the sections and vacuum toward the center. Each chamber has a discharge opening in the center of its bottom. Above the chambers are corresponding frames with V-shaped bottoms slotted for the escape of the concentrations into the lower chambers. The bottoms are suspended in such a way that they may be raised and allowed to fall upon the bars dividing the sections below. Thus a jarring blow is produced which will assist to separate the heavier from the lighter particles.

Standard Time.

The question of standard time for this country seems to be definitely settled, not-withstanding the defection of a few cities and towns of minor importance. So many of our people travel, and so many of our interests are controlled directly and indirectly by the railroads, that the plan of time which the latter adopt is very sure sooner or later to be the plan adopted by the en-tire people. The question of standard time being once determined, the secondary ques-tion of dial reform comes up. Instead of our two divisions of 12 hours apiece, which now make up the day and night of 24 hours, the advisability of numbering the hours consecutively from 1 to 24 is being discussed. Already in many jewelers' windows may be seen watch-faces provided with a double ring of figures, the inner one of which shows the figures 13 to 24. Though to some extent this meets the primary objection to the change of hours, namely, that jection to the change of hours, namely, that the 12-hour watch movements would be rendered useless, it does not altogether work simply and satisfactorily.

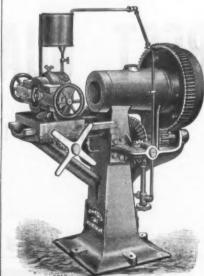
Another system has been invented by Dr.
Whitney, a Philadelphia enthusiast. This needs a complete distribution of the figures

on the dial, and in this particular only is bet-tered by the form above described, which can be adapted to any existing watch-face. According to the new method the figures from I to 24 are arranged as it were upon an endless band which crosses on itself, so that the figures 6 and 18 are in contact. Thus it will be seen that there is an outer rim with the figures 1, 2, 3, 4, 5, 18, 19, 20, 21, 22, 23, 24, and an inner rim with the figures 13, 14, 15, 16, 17, 6, 7, 8, 9, 10, 11, 12. The 13 of the inner rim is under the 1 of the outer rim, and the other numbers follow in the order given. Starting out 24 hours at the order given. Starting our 24 hours at midnight, one can use up half the outer rim until the morning hour of the workaday world is reached. At 6 o'clock one can shift to the inner rim and use this throughout the day until the approach of dusk warns us that we have changed again on the outer rim, which is accordingly used until midnight. It may be remarked that the day would have to begin at midnight instead of, in astronomical fashion, at midday. Were this not the case it would be one day of have to begin at midnight instead of, in astronomical fashion, at midday. Were this not the case it would be one day of the month in the morning and the next day in the afternoon. This plan of arranging the dial has secured the warm commendation of Sanford Fleming, who was one of the chief movers in the introduction of the standard time system. There seems but little doubt that at the international conventions shortly to be held the subject will

ment as the standard time system which the railroads put into force a few months since. The step contemplated has many advantages to recommend it, and all progressive people in whatever walk of life will undoubtedly favor its adoption.

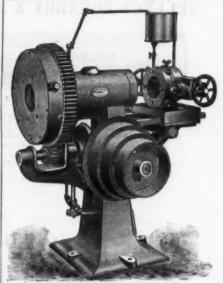
Eclipse Power Pipe Machinery.

The favor with which the " Eclipse" hand pipe machines, made by Pencoast & Maule, 243 South Third street, Philadelphia, have been received has induced the makers to place on the market a light and very compact power machine possessing similar features. This machine is illustrated in the



Eclipse Power Pipe Machine, Front View.

ecompanying engravings. It is especially designed for use in large manufacturing establishments, mills, railroad and machine shops, as well as in the regular steam-fitting trade. The machine is simple in contractions of the state of the stat struction, powerfully geared, and occupies less floor space than any other tool of similar capacity. It is fitted with an automatic oil pump which is supplied from a small reser-voir in the hollow base, from which the oil It is fitted with an automatic oil is pumped to the can on the cutting head. By this means a continuous flow of oil is supplied to the work without waste. same oil is used over and over again,



Eclipse Power Pipe Machine, Rear View.

supplied in such a way as to obviate the necessity of oiling by hand. Unlike many other tools of its class, the gripping chuck is placed at the back of the machine, thus securing the greatest possible distance between the point where the pipe is held and that at which the threading dies operate. that at which the threading dies operate This arrangement secures straight and fect threads, even when the pipe has a slight bend or kink in it as is frequently the case. By this arrangement, too, the gripping chuck is easily accessible, and makes a most con-venient and powerful vise for screwing or removing fittings from the various sizes of pipe within the range of the machine. The machine is said to be noiseless in its opera-tion, and is so compactly arranged that all

ittle doubt that at the international convention shortly to be held the subject will receive full discussion, and it is hoped that the railroad companies will make the first move by adopting it on their time-tables, thus doing away with the necessity of the awkward and puzzling "a. m." and "p. m.".

As we have already shown in these colleges on or two railroads have adopted the law are received, and mutual and amicatures or two railroads have adopted the law are received. "p. m.".

As we have already shown in these columns, one or two railroads have adopted the new plan for their time-tables above suggested. We have already commented upon the novelty of trains starting, for example, at 10.30, and reaching their destination at 19.15 o'clock. Gradually the improvement is being introduced in other directions. A certain club whose meetings are regularly held in this city sends out all its announcements based upon the 24-hour system. held in this city sends out all its announcements based upon the 24-hour system. Various organizations of a business and commercial character have adopted the new dial, so far as concerns their official announcements. Among the latter may be mentioned the Institute of Accountants and Bookkeepers, of this city. At the time of the revision of its by-laws some time since, the hours of its meetings were fixed by the new system, and the official notices of its secretary are sent out from month to month naming hours by the new dial. The further improvement that is demanded in the matter of time divisions will, we think, at the proper time be quite as easy of accomplish-

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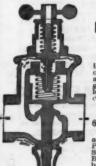
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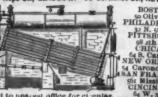
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SCIENTIFIC AND TECHNICAL.

Heat Due to Electric Currents.

An interesting paper on the heating effects the general law governing the ratio between the current strength and the diameter of the wire, when the latter is raised to a definite temperature, and where radiation is free, appears from Joule's law to be that the current should vary as the diameter X 1 diameter or c=d \sqrt{d} . Both the results of Mr. Preece's experiments tend to show that the current varies as the diameter. Platinum wires are, however, liable to flaws which practically reduce their effective diameter. Mr. Preece has also determined the strength of currents which produce self-luminosity in wires of different kinds and sizes. These currents were measured by finding the difference of potential at the ends of a thick German-silver wire, whose resistance was .0157 ohms inserted in the circuit The results with cop-per, Swedish wrought-iron, German-silver and platinum wires showed that the law $= d \sqrt{d}$ held very well for all these wires e = a v a held very well for all these wires except with those of platinum, the point of low red heat being taken as the fiducial point. The temperature of a wire which becomes self-luminous has been given by Draper as 977° F., and by Daniell as 980° F. The exception in the case of platinum may account for its exception to the law in the account for its exception to the law in the former experiments. Mr. Preece infers from his experiments that electric-light wires should be made large enough to avoid the possibility of heating them above normal temperatures; otherwise, points of danger are easily reached by increments of currents.

A New Astronomical Telescope.

A medification of Lœwig's great telescope has been devised by M. Hermite, and sub-mitted to the French Academy of Sciences. The instrument as described in Engineering is mounted as an equatorial and comprises two parts, one movable, the other immovable. The immovable part is a telescope tube directed parallel to the axis of the earth. The movable part comprises the objective and divers accessories which allow the observation of all parts of the celestial vault by aid of two movements communicated to them servation or all parts of the celestial valit by aid of two movements communicated to them at will by toothed wheels; one of these wheels receives the parallactic movement. The objective is placed, not perpendicularly to the axis of the tube, as in the ordinary telescope, but parallel to that axis and in a box of triangular section, with the tube of the telescope entering one of its walls with gentle friction. The wall perpendicular to the latter carries the objective, and the third wall, inclined at an angle of 45°, carries a plane mirror on it which receives the rays coming from the objective and reflects them up the interior of the telescope tube to the coular lens. The box is closed laterally to forbid the introduction of outside rays. It follows from this construction that by turning the box round the tube of the lunette or follows from this construction that by turning the box round the tube of the lunette or telescope tube the observer can see all points of the sky situated on the celestial equator. This movement of rotation corresponds, therefore, to that of an equatorial round the axis of right ascension. To obtain second movement of rotation corresponding to that of an equatorial equatorial round the second movement of rotation corresponding to that of an equatorial equato ponding to that of an equatorial round the axis of declination, a new box carrying a mirror inclined at 45° to the objective can be moved circularly round the latter. This box is open in front of the mirror; consequently the first or interior mirror and the objective can move in a plane perpendicular to the tube of the lunette, while the second or external mirror which receives all the or external mirror which receives all the rays before they are sent to the observer possesses two movements, one in a plane also perpendicular to the tube of the lunette, the other in a plane at right angles to this latter movement. As in M. Lowig's instrument the observer can be comfortably seated at his work, the tube of the lunette can be constructed in masonry if necessary, and as only the movable part, which is very small, requires protection, the expense of a dome

The Electric Light in the Mechernich

has fully been realized, and an extension of the plant is now being carried out. Messrs. Siemens and Halske, of Berlin, undertook the work. An open working 2000 feet long, 1000 feet wide and over 300 feet deep, in which 300 men and 20 horses are continually occupied, was first to be supplied with the electric light. This part of the mine is ex-cavated in steps, the horizontal terraces being provided with rails. Ordinary lamps in globes on poles were out of the question. two powerful lamps of 3000 candles each were erected at the upper margin of the pit, where they were fairly out of the reach of the projected stones, and reflectors were fixed to throw the light down upon the steps. To find the proper positions for these powerful lamps and to avoid too dark shadows caused some difficulty. But the illumination was pit, with the light nlamps and to avoid too dark shadows caused some difficulty. But the illumination was pit, with the light nlamps and to avoid too dark shadows caused some difficulty. But the illumination was always for the second of a galvanometer, inwater with a dynamo-electric machine in a similar way, the idea of applying the telephone, and of charging the water with a dynamo-electric machine in a similar way, the idea of applying the telephone for that purpose might not have occurred to him. The professor thought that by this means vessels might discover their proximity to each other during a fog. Nearly all steam vessels have dynamo-electric machines to produce the electric light. This machine could be used to charge the country of the proper positions for these powerful water with a dynamo-electric machine in a similar way, the idea of applying the telephone, or of charging the water with a dynamo-electric machine in a similar way, the idea of applying the telephone for that purpose unight not have occurred to him. The professor thought that by this means vessels might discover their proximity to each other during a fog. Nearly all steam vessels have dynamo-electric machines to produce the electric light. This water with a dynamo-electric machine in a similar way, the idea of applying the telephone for that purpose unight not have occurred to him. The professor thought have occurred to him. The professor there was a similar way, the idea of ap nnaily rendered most emcient, and the open pit, with the light playing on the whitish-gray rock, affords a fine spectacle. As any interruptions, even for short periods, such as those occupied in renewing the lamp car-bons, would be dangerous, the whole plant is double, each lamp receiving its current from a D₃ dynamo. No hitch of one kind has covered, and the safety of the gray rock, affords a line spectacle. As any interruptions, even for short periods, such as those occupied in renewing the lamp carbons, would be dangerous, the whole plant is double, each lamp receiving its current from a D₃ dynamo. No hitch of any kind has occurred, and the safety of the miners has decidedly been augmented. It was formerly not always possible for the superintendents to see whether the loose mass resulting from the blasting operations.

The Marsaut Safety Lamp.

An exchange quoting from a French report gives the following description of the Marsaut safety lamp: In its present improved form the Marsaut safety lamp is strong glass cylinder 2.44 inches high, I.65 inches diameter and .31 inch thick, secured in a protecting cage on the top of the oil reservoir, as in the Mueseler lamp; but the Mueseler chimney and the gauze diaphragm that carries it are done away with. Surwas formerly not always possible for the superintendents to see whether the loose mass resulting from the blasting operations had been properly removed, and frequent minor accidents arose from the débris falling down upon the miners engaged on the step next below. The work can now be con-FORGINGS and

next below. The work can now be controlled much better than before, when petrolled much better than before, when petrolled much lamps and hand lamps were in use. If inch larger in diameter, 1/2 inch taller and similarly closed at top, incases the inner gauze, and is fixed at bottom into the copper

The satisfactory results obtained in the open working induced the company to introduce the electric light down in the subterranean galleries. The ore forms little concretions of sand and galena scattered all through the of electric currents has been communicated to the Royal Society by Mr. W. H. Preece. With bare platinum wires of small diameter, and the mining proceeds in parallel and cross galleries, which are constantly being widened galleries, which are constantly being widehed until they become 90 feet in width and 70 feet in hight, by sometimes 300 feet in length. The operations in themselves would not require much light if there was not always danger threatening from loosened pieces of rock. Pitch torches were formerly employed to examine the hore holes and figures round them after torches were formerly employed to examine the bore holes and fissures round them after each explosion. It was a question whether the arc lamp would answer for this purpose in the smoky atmosphere. For the first experiments, arc lamps of 3000 and 1000 candles were used, with the positive carbon in the lower holder. The effect was brilliant, yet the light did not penetrate the white smoke cloud which collects at the upper wall immediately after the shot. But as the smoke settles within 10 minutes, it was thought advisable to acquiesce in this interruption of a few minutes, and to use smaller lamps of 350 candles, which proved quite efficient. Of these there are 10 in use, with about 10,000 feet of lead cable, the cable being partially elastic, as the lamps, with being partially elastic, as the lamps, with their wires, have to be removed when the blasting is to take place. The lamps, were originally supplied with hexagonal lanterns with obscured glass to protect the eyes of the miners. The glasses were, of course, soon broken, but no complaints are said to have been made about the naked electric lights.

The Dilatation of Liquids.

In a former paper to the Russian Chemical Society, Professor Mendeléeff had arrived at the conclusion, says Nature, that the dilatation of liquids can be expressed by the

formula $V = \frac{1}{1 - k t'}$, where k is a module which varies for different liquids, and increases with their volatility. The researches of M. Van der Vaals, combined with the above, have enabled Messrs. Thorpe and Rücker, in the April number of the Journal of the London Chemical Society, to establish the remarkable relation between the absolute temperature of boiling, t_1 , reckoned from the temperature of boiling, t_1 , reckoned from the absolute zero (-273°), the volume V_t , measured at a temperature t, and a constant a. which seems to be near to 1.995 or 2. Now, in a communication to the Russian Chemical Society, vol. xiv., fasc. 5, Professor Mendel-éef shows that, if the dilatation of gases and that of liquids be expressed by the formulæ $V_t = 1 + a t$ and $V_t = \frac{1}{1 - kt}$, which would

give $2t_1 = \frac{1}{k} - \frac{1}{a}$, and the constant a be

taken equal to 2, we receive $\frac{1}{k} = 2t_1 + 273$, where k and t₁ are determining one another. This deduction is confirmed, in fact, by direct measurements. The further progress in the mechanics of liquids, he says, must be expected from new experimental and theoretical researches into the compressibility of liquids at different temperatures and into its liquids at different temperatures and into its relations to the modulus of dilatation; the fundamental equation of liquids must express the relations between their volume, temper-ature and pressure, as is the case for gases. As to a complete conception of the ideal state of bodies, it must contain also the relations to their molecular weight and composi-

Ship Signaling at Sea.

Among the papers read before the Association for the Advancement of Science, by Prof. A. G. Bell, was one on a new method of signaling between vessels at sea. It is done by means of the telephone, but the indone by means of the telephone, but the inventor could not yet foretell what practical results it might lead to. Signals had been successfully exchanged between two boats in deep water a mile and a quarter apart. In one boat was a telephone, with one of its two terminals hanging over the bow, and the other trailing in the water over the stern. The arrangement was the same in the other boat, except that, instead of a telephone, it contained an electric battery, with an apparatus for interrupting the current very rapidly, as often as 100 times in a second. Every time the battery was connected with the water the latter became charged, The electric-light installation at the Mechernich mines, in its once volcanic Eifel district in Rhenish Prussia, says Engineering,
has now had a fair trial for more than three
years and has proved a complete success.
The expectation that it would both facilitate
the operations and increase their security
has fully been realized, and an extension of
the plant is now being carried out. Messrs.

The electric-light installation at the Mechwith the water the latter became charged,
and when the circuit was interrupted
the operations and increase their security
has fully been realized, and an extension of
the plant is now being carried out. Messrs. at different intervals, and an alphabet was arranged by means of which messages could be transmitted. A skillful operator could read a message communicated in this way with the greatest ease. In connection with this invention Professor Bell said that if Professor Trowbridge, of Harvard College,

The Marsaut Safety Lamp

that carries it are done away with mounting the glass cylinder and flush with its inside circumference is an inner gauze cylinder 6 inches high, tapering slightly smaller upward, and closed at top by a gauze **DUNN'S**

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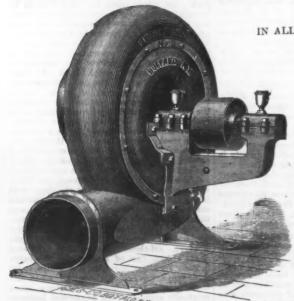
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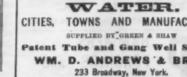
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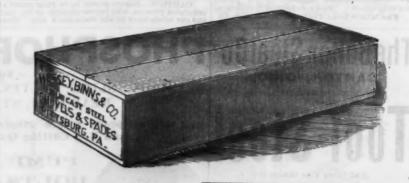
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RIVERSIDE IRON WORKS, HANUPACTURERS OF RIVERSIDE Pig Iron, Bar Iron, Bar Steel, Steel Blooms, Steel Billets. Small T Rails, Flat, Rails of Iron or Steel, Fish Bars of Iron or Steel.

WHEELING, W. VA. J. E. QUACKENBUSH & SON Porcelain, Mineral & Jet Knobs & Escutcheons.



18 930 holes per square inch, or 30½ per lineal inch. The entire gauze is shielded by an external sheet-iron casing, which can be lifted off at pleasure, having inlet holes round the bottom for the air to enter the shipments of from 3000 to 4000 tons per lamp and outlet apertures at top. While week can be made. the general shape and construction of the Mueseler lamps as sanctioned by practice are thus preserved in the Marsaut, the small horizontal annular diaphragm of gauze sup-porting the chimney in the former is re-placed in the latter by the inner gauze cylinder, which presents a far larger cooling surface for the hot gases inside the lamp to pass out through. Additional safety can be secured by further covering the flat top of secured by further covering the flat top of the inner gauze cylinder with a gauze hood, so as to double the thickness of gauze at that part, upon which the force of an explosion inside the lamp comes most direct. A third complete cylinder of gauze can even be added, if desired, as an extra precaution, but two are considered safe enough and preferable generally.

In the trials made of the Marsaut lamp, at

Besseges, an explosive mixture was employed of air and of lighting gas, which latter fires more readily than fire-damp; and the wick being reduced below its usual flame, the conditions were thus more trying than are met with underground. With three forms of the Marsaut lamp, testing two from are met with underground. With three forms of the Marsaut lamp, testing two lamps of each form, upward of 6000 trials failed to produce a single explosion; whereas 15 Belgian Mueselers, tested simultaneously, each of them about 100 times over, let the each of them about 100 times over, let the flame pass through the horizontal gauze diaphragm in 31 per cent. of the trials, and in 2½ per cent. produced explosion outside of the lamp. Still severer trials were also made by mixing the air with lighting gas in their most highly explosive proportions—namely, 100 volumes of air to 20 volumes of gas—and exploding the still mixture inside the lamps by an electric spark. Under this excessive test the large Davy lamp used in the Gard district exploded the mixture outside it every time; the Boty Clanny and Belgian Mueseler, and the Marsaut lamp with two gauze cylinders, almost every time; but 12 trials of the Marsaut with three gauzes, and 10 of the fire-trier's Davy. gave not a single explosion outside. Investigating experimentally the mesh and shape of the wire-gauze cylinder, the conclusion was reached that for the total area clusion was reached that for the total area of apertures per square inch gauze of finer mesh is safe than a coarser and heavier make. The lamp should be made inside as nearly cylindrical as possible throughout its entire hight, and in particular the bottom of the gauze should be flush with the inner circumference of the glass. Any narrowing at this part, by the insertion of a horizontal annular diaphragm projecting inward, or by contracting the gauze cylinder to a smaller annular diaphragm projecting inward, or by contracting the gauze cylinder to a smaller diameter than the glass, is objectionable, doubtless because the explosive mixture inside the lamp gets thereby so churned up as to augment enormously the rapidity with which it explodes, enabling the flame, consequently, to pass out through the gauze. The lighting power seems to depend partially upon the metal of which the lamps are made, a brass lamp being found to give only 70 per cent. lamp being found to give only 70 per cent. of the light obtained from the same make in wrought iron. The difference is no doubt conted with heat-conducting capacity. English lamps are generally made of brass, and German of wrought iron. M. Marsaut is inclined to think steel, or perhaps malleable iron, would be advantaged

Marsh Gas as a Refrigerator,

The pneumatic machine employed by M Wroblewski in liquefying and evaporating ethylene and oxygen to produce intense colds, says Engineering, has also been recently used by him to evaporate liquid marsh gas. He has thus obtained a temperature of gas. He has thus obtained a temperature of — 155° and — 160° C., which is the temperature of ebullition of the liquid gas. It is a useful temperature as coming between the temperatures of — 144° C. and — 184° C., which are obtained with ethylene and oxygen, but it varies with the degree of purity of the gas. Oxygen, atmospheric air, nitrogen and carbonic oxide cooled with the marsh gas can be liquefied under feeble pressures, so that a chemist who succeeds in producing pure marsh gas easily and economically will

Heat Absorbed by the Atmosphere.

Professor Langley, of the Alleghany Obeye, throws it on the face of the bolometer, which measures the heat of the different portions of the spectrum. The bolometer depends for its action upon two equal electrical currents, the conducting wires being so placed that the needle of a galvanometer remains stationary during the passage of the current. If, however, the wire which con-ducts one of the currents be heated, its electrical resistance is increased, when the needle of the galvanometer will evidence the change. The part of the circuit exposed to the influence of heat consists of a fine strip of platinum foil fixed in an ebonite case. It is said that this instrument is sensitive to a change of temperature of $_{1505}^{\circ}$. The results of months of work by Professor Langley and his assistants have led to the conclusion that the amount of absorbtion of the sun's rays by the atmosphere is much nearer 60 than 20 per cent., the number formerly given.

The Norfolk and Western Railroad Company own about 1000 acres of land at Lambert's Point, just 4 miles below Norfolk, Va., and they are now building there one of the pany expect to be able to compete in the sea- for the guns that are now being built.

ring that forms the upper ring of the cage board markets with Cumberland or Clear-holding the glass. The mesh of the gauze field. Several new short branch lines are now being constructed to points within about a mile of Pocahontas, where new mining operations have been started, and it is calculated that by the middle of October

Blast-Furnace Capacity and Produc tion.

In the August number of the Journal of the American Charcoal Workers' Association of the United States is a paper, by Mr. Birkinbine, on the estimated capacity and actual production of blast furnaces in this country.

Mr. Birkinbine begins his discussion of the subject by remarking that "the difference between the capacities and the output of our blast furnaces is often misunderstood by those who discuss iron statistics, and the relation between the total number of fur-naces and the number in blast seems to be but imperfectly appreciated," and then proceeds to give a series of tables, covering the years 1872 to 1883, compiled from the annual statistics of the American Iron and Steel Association and from the quarterly statements of The Iron Age. His analysis of the figures and conclusions are given as follows:

We find that the January reports represely.

We find that the January reports generally show a maximum number of all blast furnaces active; that April ordinarily exhibits the largest number of bituminous furnaces inblast; that the greatest activity in anthra-cite furnaces has been noted by the January reports; that the maximum number of charreports; that the maximum number of charcoal furnaces are in operation chiefly when
the October and January returns are made,
and that the minimum number is generally
in April. The latter fact is owing to the
practice which many charcoal furnaces will
pursue of blowing out early in each year
when the stock of charcoal is exhausted. As in most parts of the country where the char-coal pig iron is produced charcoal cannot be made in meilers before May, a large pro-portion of the furnaces are idle when the April returns are collected. At no time since 1873 have over 63.7 per cent. of all the furblast, and the proportion of active furnaces has been as low as 30 per cent. of the whole. The largest percentage of active anthracite furnaces returned was 82.1, as shown by the record of furnaces in April, 1880, and the least proportion of anthracite furnaces in blast was 31.1 per cent., in Sep-tember, 1876. The bituminous furnaces show less variation than those using anthracite fuel, the maximum percentage of the bituminous furnaces being 7.7 in April, 1881, and the minimum 36.3, in September, 1876. The returns for December 31, 1873, show 68.1 per cent. of the charcoal furnaces in operation, and those for April, 1877,

but 20.2 per cent. in blast. We think that this analysis may surprise some of our readers, for few will surmise that in the past II years there has at no time been two-thirds of all the blast furnaces in the country in operation; that the average pro-portion of active furnaces has been greater portion of active furnaces has been greater in those using anthracite than in those employing bituminous fuel or charcoal, and that, except in the years 1873 and 1874, and from October, 1880, to October, 1882, less than one-half of the charcoal furnaces have been reported in operation at one time. To estimate the aggregate furnace capacity of the country it would not be proper to divide the output of our blast furnaces in any one year by the average percentage of active year by the average percentage of active furnaces in that year, because many reported out of blast are handicapped by situation, size, equipment or supplies, and go out of blast at times when more fortunate plants can operate successfully. There are, how-ever, always a considerable number of blast furnaces being repaired or rebuilt; scaffolds, fires, chills, explosions, bad management, scarcity of fuel or ores, financial troubles and other causes are constantly occurring to withdraw furnaces from the active list, so that it is doubtful if under especially favorable circumstances the country could produce 75 per cent. of the total blast-furnace capacity in any year. The percentages above given show that the average activity is scarcely 50 per cent. of the total number of blast furnaces.

Messrs. Deans & Moore, of Penston Col servatory, has for some time past been lieries, Haddingtonshire, says an English exchange, have lately adopted a new conmaking a series of experiments to determine what proportion of the heat from the sun is absorbed by the atmosphere. To assist him in his researches, Professor Langley has found it necessary to construct a special instrument to take the place of Melloni's thermopile in measuring slight differences of temperature. For this purpose he uses what is called a spectro-bolometer. The new apparatus consists of a large spectroscope, which, instead of throwing the spectrum on the objective of a telescope to be viewed by the eve, throws it on the face of the bolometer. See that he can be exchange, have lately adopted a new contriviance for economizing time and labor in connection with dispatches relating to their collieries and their offices at Smeaton Park. There is no telegraph office nearer to Penston than that at Tranent, which is about 3 miles distant, and telegrams are never delivered in less than hour from the time at which they are sent out from the Tranent post office. Messages, however, are now regularly received at each place from the other (a distance of 6½ miles as the crow flies) in miles distant, and telegrams are never delivered in less than hour from the time at which they are sent out from the Tranent post office. Messages, however, are now regularly received at each place from the other (a distance of 6½ miles as the crow flies) in from 4½ to 7 minutes. This result is accomplished by the employment of "homing" pigeons, which are kept at each place, and removed to the other as required. At first a watch had to be kept for the arrival of the birds, but one of the partners of the firm watch had to be kept for the arrival of the birds, but one of the partners of the firm has perfected a plan by which they themselves register their arrival. Formerly they did so by ringing an electrical bell, which was found to be of service only when the office was occupied; now, by a glance at the window of a small box containing an electron window of a small box containing an electro-magnet the clerk in charge can tell at once whether or not any of the winged messengers have arrived during his absence.

Two of the largest boring machines ever made for ordnance purposes have just been completed for the English Government by Messrs. Craven Bros., of Manchester. The machines, although they are not yet at work, have been put down at the Woolwich Arsenal. Each of these machines weighs 165 tons, and is capable of boring 30 i chest diameter to a depth of 50 feet. They are construction to smaller machines Two of the largest boring machines ever finest coal-shipping piers in the United States, sufficiently long for seven or eight vessels to load at once. The coal comes from the Pocahontas mines, and the comfeature is the extra length of bore required feature is the extra length of bore required for the ground that the comfeature is the extra length of bore required

The Iron Age

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Our Purchases of Foreign Pig Iron.

We have recently had occasion to examine the statistics of the importations of pig iron for the past 30 years, and have been very greatly interested in noting the changes that have taken place from time to time during that period. The year 1855 was sufficiently in advance of 1857 to show a normal condition of trade at that time, uninfluenced by the financial disturbances preceding and following the panic of the latter year. From 1855, therefore, our statistics of importations may properly begin. In the table given below, the yearly importations of all kinds of foreign countries less to-day than ever, with cluding Bessemer pig iron and spiegeleisen. The figures down to 1871 are for Government fiscal years, which extend from July I to June 30, but from 1871 to 1884 calendar years are given. This, however, does not interfere with our use of the figures for our present purpose. The table of yearly importations is as follows:

Years.	Gross tons.	Years.	Gross tons.
1855	98,925	1870	153,283
1866	59,012	1871	219,228
1857		1879	264,257
1858	41,996	1878	138,132
1850	72,517	1874	
1860	71,498	1875	74,989
1861	74,026	1876	74,171
1862		1877	59,706
1868	81,007	1878	
1864	102,223	1879	
1965	50,652	1860	
1866		1881	
1867		1882	540,159
1868		1883	822,648
1869		1884 (est.)	

The influence of the panic of 1857 on importations of pig iron is here very clearly shown, only 41,986 tons being imported in 1858, against 98,925 tons in 1855. years following 1858 the trade in foreign departments, a few years ago, had captured pig iron, which at that time was mainly all the secrets of Yankee cheap manufacture, Scotch, picked up somewhat, but the civil and that he is now competing with them. with it, as with all other lines of business, domestic and international, and in 1862 importations dwindled to the lowest point As our tariff is higher than that of Gertouched in these 30 years-22,247 tons. The many, the German clockmakers pay less for Under such influences it would not be strange ing the addition of four Siemens furnaces and steel trades not materially better than

importations jumped to 102,223 tons. A reaction occurred in 1865, and only half as much pig iron was purchased abroad. Between 1866 and 1869 general trade improved, the Bessemer process was introduced, Bessemer pig iron and spiegeleisen were purchased abroad in considerable quantities, and imthat time it was difficult to procure Amerof railroad building raged, and foreign pigiron makers were called upon for larger quantities of their products than ever before, the importions swelling until in 1872 they amounted to the unprecedented figure of 264,257 tons.

The panic of 1873, however, prostrated all business, and those engaged in the foreign pig-iron trade were not without feeling its effects. In 1874 importations fell to 54,611 tons, when the lowest point was touched since 1865. American pig iron at that time and in the four succeeding years was sufficiently cheap to induce many to use it who had for years relied upon favorite brands of Scotch and other foreign pig iron. Domestic makers had also overcome the difficulties in the manufacture of Bessemer pig iron, and Bessemer steel manufacturers had ceased to depend upon foreign pig iron for the raw material of their process. In 1878 it was generally supposed that the foreign pig-iron trade had for ever lost its hold on the American market.

kinds of iron and steel was so heavy that domestic manufacturers were unable to meet it, and in that year alone 304,171 tons of pig iron were received here from abroad, although only 66,504 tons had been imported in the preceding year. This was an unprecedented quantity, but in 1880 importations jumped to 700,864 tons, which was almost as much in one year as had been received in the four years covering the flush times of 1870-73, and more than the total importations in the II years from 1855 to 1865. This huge importation of foreign pig iron was not wholly the result of a scarcity of domestic pig iron, but was largely speculative, the price of the domestic article having been advanced to such a hight as to encourage the influx of its foreign competitor. The receipt in this country of such a large quantity of pig iron was followed by arrivals aggregating 1,000,-000 tons in the next two years, and 225,000 tons in 1883. The effects of this "boom" were felt some time after its collapse, pig iron having been imported for Bessemer steel-rail manufacture in considerable quantity even during the early part of the present year. Now, however, the only foreign pig iron coming here consists of Scotch pig iron imported for special foundry work, special grades of Bessemer pig iron for steelmaking, and spiegeleisen also for steel-making. The total importations of this year, it is estimated, will not vary much from 150,ooo tons.

The effect upon the importations of pig iron caused by the various influences re ferred to above is perhaps more clearly shown by ascertaining the average yearly importation during the periods over which these influences extended. In the following table an attempt is made to present these statistics in the way referred to:

1855-60 65,955 1670-78 19	
	18,795
1861-65 56,081 1874-78 6	5,986

A vigorous effort is being made to capture the little remaining trade in the hands of the dealers in foreign pig iron. Ordinary Bessemer pig iron cannot be imported at present prices in competition with domestic Bessemer. Bessemer pig iron of special quality for use in open-hearth steel furnaces still comes into this country in limited quantities, but domestic pig-iron makers are turning their attention in that direction, and their efforts are meeting with flattering the prospect of being able to entirely supply its own wants at no distant day. The importers of Scotch pig iron are in better condition than those representing other branches of the foreign pig-iron trade, inasmuch as they have a demand that continues in spite of all efforts of American makers, though it has shrunk woefully from its proportions of a year or two ago.

We have made no allusion to the effects of

the tariff of 1861 upon the pig-iron trade, as the subject is worthy of special treatment. The figures above given, however, show that the effects of that and succeeding tariffs have been very far from being prohibitory

Last week some enterprising newsgatherer Last week some enterprising newsgatherer of the members of the Stock Exchange is at New Haven, Conn., learned the startling revived. Those features which most esfact, that the clock factories in that vicinity, at which are manufactured most of the clocks exported, were threatened with serious competition from Germany. It was said that There was reason at the outset to fear the a German clockmaker, by sending his three sons into a New Haven factory, in its various war, beginning in 1861, seriously interfered Another very serious element appeared to complicate the situation, which was the In the absence of the public, gambling in tariff on imported steel necessary for springs. "futures" and speculating in "margins" tariff on imported steel necessary for springs.

when most vigorous efforts were being made to supply all kinds of war material needed, this sensational story of an American industry tottering to its fall between foreign competition on the one hand and the duty on 'raw material" on the other. An interview with a clock manufacturer had disclosed the fact that for many years cheap clocks have been made in Germany, but that our manufacturers have never found their portations advanced from year to year. At trade appreciably affected by them. Further, "three sons of a German clockmaker" ican pig iron suitable for conversion into could not get all the secrets of manufacture, Bessemer steel. From 1870 to 1873 a fever as there are about 30 separate departments in the factories, the work being so systematically divided that a workman does only one thing. And, finally, all the steel used in a clock, outside of a few pinions, is in the mainspring, which costs only from 4 to 17 cents. The average cost of the steel entering into an ordinary clock falls below to cents. The duty, therefore, would be very trifling and not worthy of consideration.

Speculation on 'Change

The disastrous results of speculation in the stocks of corporate institutions and in our chief staple commodities are evident at a glance, even if we look no further back than last May's panic, which has, for the best of reasons, frightened away from our commercial exchanges in New York a large proportion of their former habitues. Complaint is constantly heard that the public (meaning 'lambs" with wool ready for shearing) are no longer open to temptation, and that the But in 1879 came the memorable and value of memberships is constantly diminish-regretable "boom." The demand for all ing. Seats in the Stock Exchange, which formerly sold as high as \$32,000, can now be bought for about \$24,000, and the obstreperous brokers who once wallowed in wealth are now said to obtain only a precarious subsistence. The exchanges themselves, which for a time seemed to form s bonanza for the operators, now languish, and in some cases are on the verge of dissolution. The fact is that there is ordinarily little inducement to speculate on a falling market, and values continue to shrink, affecting almost every description of property. According to one estimate the losses ustained by individuals and firms who went down in the May panic figured up not less than \$50,000,000, which has been largely increased by recent disasters, not to speak of millions which have vanished from the assets of distressed millionaires. Almost universally the story is, "speculation did it."

The record of dishonor and suicide and flight is sufficiently extended and ghastly to suffice as a lesson for at least the present generation. Roulette and faro are illegal and disreputable, but a gentleman or a man of business may take "a flyer" on 'Change without discredit. It is time to look at such transactions in their proper light. A man without business obligations who has money of his own may risk and lose it if he wants to without being accountable to anybody, but the bank officer, the merchant seeking credit, or the custodian of trust funds, who risks everything on a fluctuation in a market where he has no business as an operator, should forfeit the confidence of business men whether he makes or loses, quite as much as if his earnings were employed at the gambling table. There is such a thing as legitimate speculation, but it is restricted to reasonable and prudent risks within the limit of one's own business.

Without challenging dispute by affirming that the existence of exchanges is an unmitigated evil, we will concede that the commercial benefits are in some respects inquestionable. The widespread influence which they exert may be judged of from the following list of exchanges in New York City alone, together with the quotations of exchange memberships.

Brokers' Real Estate and Auc- tion Rooms	Bid. \$840.00	Asked. \$900.00
Building Material	18.00	50.00
Electric	*****	80.00
Importers' and Grocers'	205.00	390.00
Manhattan Hay and Produce.	85.00	45.00
Mercantile	305.00	825.00
Mechanics' and Traders'	40.00	90.00
New York Stock	22,000.00	25,000.00
New York Cotton	8,150.00	8,250.00
New York Coffee	800.00	900.00
New York Metal	140.00	150.00
New York Petroleum	325.00	850.00
New York Real Estate and		
Traders,' dues not paid	1.00	2.00
New York Naval Stores and	2000	2.00
Tobacco, dues paid	60.00	75.00
New York Maritime	90.00	185.00
New York Mining and Na-		200100
tional Petroleum	500.00	595.00
New York Produce	900.00	8,850.00
Open Board of Brokers	400.00	75.00
Wine and Spirit Exchange	25.00	65.60
In the same of the Ctech	E-shames	A

In the case of the Stock Exchange, transactions are on such a scale as to require banking institutions almost exclusively devoted to their interests, but at the same time so intimately connected with various trades and organizations as to endanger the entire banking system in times of financial bank and clearing-house for the special use pecially concern the public at large are certain disreputable practices fostered by their peculiar methods, some of them infamous. degenerating tendencies of the exchange but of late, since the fright occasioned by the many revelations of dishonesty above re ferred to, and the ruinous depreciation of shares experienced within a few months, legitimate business is becoming less and less. has received almost undivided attention.

trade recovered slightly in 1863, but in 1864, English steel than our people do. A day or if integrity becomes an unknown quantity. two after, the New York Times punctured Still more iniquitous is a practice lately in vogue of disseminating falsehood and deliberately assailing public credit in expectation of deriving profit from the general ruin invited. Unless restrained it would seem that no position of trust is beyond the reach of such miscreants; none are so secure upon the serene hights of virtue as to escape the general peril of attack by often invisible

> It is time that the leading representatives of trades which are now under the dominanation of exchanges should come to the front and take their management. If those which are in existence cannot be reformed, the solid men in their membership would do well to withdraw and found institutions which shall start and remain under good influences. Membership has been much too easily acquired. Seats should not be transferrable without the consent of all concerned any more than memberships of clubs. Before a man can become a member of an exchange he should be required to show that he is legitimately engaged in the business to which it relates, is responsible and has a ecognized position in the business world. We do not suppose that these suggestions are practicable at present, but at the rate at which things are running it will become a necessity that the exchanges shall be abandoned to the gamblers altogether or reorganized with the solid men in control.

Condition of the Foreign Iron and Steel Trades.

A glance at the iron and steel trades abroad shows them to be, with hardly an exception, suffering an equal, if not greater, depression than our own. Classifying the different European countries according to the dullness existing in their iron and steel industries, it would appear that England and Scotland lead, while the indications are that Austria is the least affected by the present general depression. Why it is that England suffers more than her Continental neighbors is perhaps difficult to determine, though it might be partially explained on the ground that her iron and steel works, whose products formerly went far toward supplying the needs of the world, have attained a development far greater than is necessary for the supply of her home consumption, and consequently depend to a large extent upon the demands of foreign markets. Apart from the present depression, however, these other countries to which she sent her iron and steel are year by year becoming more independent of English products, in some instances to the extent of successful competition in neutral markets. With a productive capacity so disproportionate to her own needs, it is not difficult at present to dispose of her surplus products.

It would be a sufficient comment upon the condition of the trade in the different iron and steel centers of England and Scotland to say that in each and every one extreme dullness prevails, for, although the various local markets are from time to time subject, from many causes, to alternate flutterings of temporary activity and subsequently greater depression, their normal state remains the same, and thus far every hope of a brighter future has proved but transitory. In Wales, however, notwithstanding excessive dullness in the iron and steel trades, the industrial situation is comparatively good, owing to a fair amount of activity in coal, which gives employment at least to a large amount of labor, while the outlook is somewhat better for iron. Wales is also largely benefited by her extensive tinplate trade, in which a fair amount of business is being done. Undoubtedly, the most important branch of the iron industry is the manufacture of pig iron, for, the product being of upon further reduction for its consumption, and when the demand for it is and continues slack it bodes a serious condition in many blast furnaces in England and Scotland kg. or about \$10 per ton, which is lower hardly 50 per cent. are in blast, and the proincreasing. In the North of England, which is the most important pig-iron center the trade has been and continues much depressed, sales in Middlesboro' being limited in amount and at prices hardly covering the cost of production. The price of pig iron has been gradually falling for the past year, the latest quotations for Middlesboro' No. I foundry pig being 41/, or a trifle over Though \$10, as against 43/6 a year ago. these figures show but a small decline, it must be remembered that the comparatively small difference of 2/6 at the present low prices is by no means an insignificant excitement. It is, therefore, satisfactory to amount. The condition of affairs at the know that the talk about the formation of a North is most unsatisfactory, as was shown at a meeting of delegates of the Cleveland presented at the trades union conference in iron and steel was very satisfactory held in Aberdeen : "That'it is desirable there should be a federation of all trades unions, with a view to regulating the hours | There have been various causes assigned for of labor, and, if possible, to prevent over-Eston Works, in the Cleveland district, which of 1882. Sweden is also doing a fair amount were recently temporarily reopened, had of business in iron and steel, for, though been previously closed for several weeks. prices continue low, the tables of exports for Messrs. Bolckow, Vaughan & Co. are taking advantage of the forced cessation of provement over 1883. Passing to Belgium, work to make extensive alterations, includ- however, we find the condition of the iron

and a steel mill for treating the product. The reason of this change is said to be the severe depression in the steel-rail trade, making necessary some other outlet for their product. In South Staffordshire there is some little evidence of vitality in the pig-iron trade, owing to the fact that buyers, thinking that bottom prices have been reached, are taking the opportunity to lay in stock, but reports do not indicate that such action is very extensive. What trade there is in bars in the same district is attended with little or noprofit, the manufacturers living in the hope that relief will eventually be afforded. In North Staffordshire the pig-iron trade is a little less dull, but, nevertheless, stocks are constantly increasing. In bar iron the trade is also very dull, though prices remain practically unchanged. Staffordshire ordinary marked bar is quoted at £7. 10/, which is about the same figure that it was sold at a year ago. In Sheffield the trade appears to be in no better condition than in other districts, the prices of steel being such as to hardly pay for its manufacture. Rails are now selling at from £4. 15/ to £4. 17/ per ton, which is a considerably lower figure than was reached 12 months ago. The only trade that gives any evidence of activity in Sheffield is in armor plates and heavy ordnance. It is reported that a Sheffield manufacturer attributes at least some of the distress to the want of enterprise shown by the home firms, who, for many instances, are suffering from foreign competition, a number of English orders being filled at German, Belgian and other Continental works. An innovation worthy of notice that has been brought about by the absence of demand for the products of the Bessemer steel-makers is the competition that has arisen in the Sheffield market between best Bessemer and common cast steel, steel of the former kind, of guaranteed temper, such as is suitable for medium-class cutlery, being now obtainable for £6. 15/per ton, as against £12, which six years ago had to be paid for cast steel used for the same purpose. Turning to Scotland, we find the prospect no brighter than elsewhere. Notwithstanding the fact that 20 blast furnaces have been shut down during the past year, leaving only 94 furnaces in blast at present, the production of pig iron is still more than enough to supply the demand. Warrants are now selling at about 41/7, as against 47/ at a corresponding date last year, and even with this reduction in price of over \$1.25 per ton the stock in Connal's stores at Glasgow has increased from about 584,eco to 587,000 tons the past 12 months. The shipbuilding industry, which is such an important factor in Scottish trade, does not show any prospect of a revival. The returns of vessels launched on the Clyde up to the 1st to be wondered at that England finds it of August were 162,551 tons, against 224.886 tons in 1883, but the figures of vessels on the stocks were 100,000 tons less than for the same date a year previous. Some few good orders have been booked by the Clyde builders, which were, however, solely due to the exceptionally low prices at which contracts can be made, and not because of any demand for more shipping. It is a rather curious fact that, notwithstanding the general desire for increased activity in the shipbuilding trade, there are many who, because of the present unremunerative freight rates, do not anticipate such revival as an altogether unmixed blessing.

Crossing the Channel we find the same general condition of the iron and steel trades existing on the Continent, though in some countries the depression is not so seriously felt; in fact, Austria has been peculiarly exempt from the prevailing stagnation. The condition of the French market is reported as being very unsatisfactory, the orders received being small in amount and the prices low. Statistics show that the French imports of iron and steel during no utility in its crude state, it is dependent the first five months of the year were some 33 per cent. below those for the same period in 1883, while the imports of iron ore also show a large decrease. The price of other industries. Out of the total number of puddling pig is quoted at 5.4 francs per 100 er 100 kg. (\$30 per ton), agai 17 francs for same date a year ago. The condition of the iron and steel trades of Germany is not such as would warrant any hopes of renewed activity, though the steel trade is not quite as unpromising as the iron. The stocks of Westphalia pig iron are very large and the prices are reported as below the quotations of 1879. The exports are less than last year and prices are steadily declining. Puddling pig iron is quoted at 54 marks per ton (less than \$13), which is marks per ton cheaper than a year ago. Merchant iron has also declined in price being at present about \$25 per ton. In Austria, as we noticed above, the state of the trade is decidedly better, though in some cases fresh orders are not coming in as With but few exceptions the Austrian trade during last year; in fact, the production in 1883 was ahead of any year since 1873. this activity, but it appears more than probproduction, which has caused so much able that the country is largely indebted for poverty and distress in the past." The its present prosperity to the increased tariff

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pants owner in the the first half of the year testifying to the common depression.

It may prove of interest in connection and steel trades abroad to draw attention to some of the statistics just published by Mr. British iron and steel trades. The production of Bessemer steel ingots during the halfyear ending June 30, 1884, is 637.843 tons, the total last year's product being 1,553,380, first figure. The corresponding products of Bessemer steel rails for the same periods are given as 426,415 and 1,097,174 tons. Though the latter numbers in both cases represent the yearly product, while the former are for only six months, it will be readily seen that there has been a very marked falling off in production. On consulting the statistics, as presented in greater detail in the report, the decrease is found to be especially large at Sheffield, where at present only three concerns are running their rail mills. The make of pig iron for the first half-year of tons during the same period in 1883, which shows a decrease for the present year of 147,005 tons, the decrease in the Cleveland district alone being not far from 100,000 tons in a total half-yearly product of 1,280,coo tons. The amount of pig iron held by was 1,425,343 tons, which is more than 10,-000 tons greater than was in stock at the same date of 1883, and 15,000 tons above the amount held on January I of the present to an enhanced demand and more remunerative prices, but thus far there are no indications that such a result will ensue

After the Anzin Colliery Strike.

The recent great strike at the collieries at Anzin, France, presented some very interesting facts. In the first place, it was one of the few great strikes of recent years in France. For many years combinations of workmen were forbidden by law, and it has only recently been possible for workmen to so unite as to present anything like a solid front to the manufacturers or operators, and thus have any prospect of success through a strike. The Anzin strike, which was one of the best organized and most persistently fought, probably, of any strike in France since the great outbreak at Creusot, resulted in the utter defeat of the workmen. This is likely to act as a preventive to strikes in the future, not only among the Anzin miners but also among colliers in other districts.

As a result of this defeat the miners' association in the Anzin district, which was one of the strongest of French trades unions, is in serious trouble. At the time of the strike its membership was 4400 out of 21,000 adult miners in the northern coal-fields, a proportion of 21 per cent. This, to those acquainted with the strength of unions relative to the entire number of workpeople, will seem a very fair proportion. But since the disastrous termination of the strike the number has been falling off, until now there are but 1820 members, or only 8.07 per cent. Twothirds of the members have shown their disapproval of the strike by withdrawing from the association; but the defeat of the association and its waning numbers have brought about a remarkable proceeding. The miners were compelled to obtain provisions on credit, and the debts so contracted have not yet been paid off. To test the responsibility of the miners' association, which was responsible for the strike, a dealer has brought an action at law against the secretary for payment of the amounts owing to him by members of the

We print on this page a compendium of the reports received in reply to the last circular sent out by Messrs. George H. Hull & Co., asking for definite responses to the question whether those to whom they were sent would agree to bank or blow out their furnaces upon the terms already known to our readers. Of the furnaces represented by owners agreeing to restrict production-og in all-we find that 69 are already out of blast and are willing to agree to remain out for periods longer or shorter, according to what may be assumed to be their present expectations, should no agreement be reached. As good business policy would dictate continued idleness to those who are already idle, their consent to participate in the scheme to reduce production is without especial significance There is nothing in the present situation to war- all the trades are considerably higher than rant the blowing in of a furnace which may be out, and it is safe to assume that nothing will occur within the next six weeks or two months to so change the conditions as to encourage very much increase of production. We may assume, therefore, that, whether the owners of idle furnaces say so or not, they can be counted on as involuntary participants in the scheme proposed. Fourteen owners who are now making more or less to the present condition of the sugar industry iron agree to restrict by blowing out or in the island of Cuba: "Twelve sugar estates banking, according to circumstances. This is significant, and shows the drift of opinion "616.41, have already been announced to be in the trade very much better than the re-

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with her neighbors, France and Germany, be assumed to do. Of those who decline to excessive taxation and protracted misthe statistics published of the iron trade for enter into any agreement, II flatly refuse for government Cuban industries of every form reasons of their own to join any movement the delivery of the iron they are making; with this brief review of the state of the iron three consume their own furnace product such as to stir up the sympathies even of the and need it; two are using anthracite fuel and could not bank if they would, and one Jeans in his semi-annual report of the has the straightforward honesty to say that expediency of selling the island to the he does not believe in that method of cortrade. Several others make somewhat indefinite and unsatisfactory replies, but may which is considerably more than double the safely be classed among those refusing. From this we think it may be asserted with confidence that the scheme has not made much headway. However, as the number of those from whom these reports come re-present but a small fraction of the furnace owners in the United States, the outlook for the movement may be somewhat changed when the others are heard from, if, indeed,

An uneasy feeling exists in the anthracite coal regions of Pennsylvania, caused by the apprehension that the notorious brotherhood of Mollie Maguires is again being revived. 1884 is 3,991,220 tons, as against 4,138,225 This secret society, composed of miners and laborers, was at one time a very powerful organization, and the deeds of bloodshed committed by its agents crimsoned the Keystone State from near the northern border almost to the boundaries of the capital. Its former suppression is due to the efforts of Franklin makers and in warrant stores on June 30 B. Gowen, then the president of the Philadelphia and Reading Railroad Company, who courageously undertook the work of stamping out of existence this infamous organization, whose principal object seemed year. These last figures present evidence of to be murder. Not only were obnoxious decreased output which would under mine owners and mine superintendents "reordinary conditions of trade be antecedent moved" by the society's agents, but prominent citizens of mining towns were num bered among its victims. The leaders aspired to be politicians also, and several counties felt the weight of the Mollie Maguires in their local elections, important offices being not infrequently filled by members of the order. This condition of affairs was fast becoming a terrible grievance to the good citizens of the coal regions, but Mr. Gowen freed them from the incubus by securing reliable testimony against a large number of those Mollie Maguires who had either ordered or committed murders. In the neighborhood of 30 were hanged, the order was completely broken up, and for over five years there has not been a suspicion of its revival until now. While there is no direct evidence to connect the Mollie Maguirea with recent murders, circumstances certainly direct suspicion toward them, and the recent mysterious incendiary burnings of colliery property in different sections of the coal country are attributed to the brotherhood. It is said that detectives have ascertained also that prominent officers of the coal-min ing and coal-carrying companies have been black-listed, and their murder set down for the early future. With a fall knowledge of the heinous misdeeds of this infamous order during its former period of existence, the Pennsylvania authorities will merit severest condemnation if they do not check any and all attempts at its revival.

> Observing a statement in an exchange to the effect that the Juragua iron ore recently received from Cuba by the Bethlehem Iron Company contained an average of only 63 per cent. of iron, with considerable sulphur, we addressed a letter of inquiry on the subject to Mr. Alfred Earnshaw, of the Juragua Iron Company, Philadelphia, who responds

time ago from Cuba, which the Bethlehem Iron Company have used. The ore was shipped prac-tically before our road was opened, and was sur-face ore from one of the mines, of which we have some 3000 to 4000 tons to ship. It is somewhat amounts owing to him by members of the association, and the court has rendered a decision in his favor. If this is the law we imagine that the officers of French unions will in future be sure they are right before they give the order to go ahead. regular grade of ore. Ti sylvania Steel Company.

> As it is probable that large quantities of Cuban ore will be shipped to this country, further information about it, as well as about the pig iron made from it, will be awaited

A reporter of the Philadelphia Public Ledger has recently investigated the subject of the cost of living now, as compared with 30 years ago. His inquiries have brought him into contact with old housekeepers and storekeepers and representatives of various trades and crafts, whose recollections cover the past quarter of a century, and his report occupies about a column of the journal referred to. The details are interesting, and he concludes that, taking all things together, it costs considerably more to live now than it did 25 or 30 years ago. Wages in nearly they were then, yet it is believed that a family spends more than the increase in the wages of its head in housekeeping nowadays; whereas, perhaps, if he lived as his forefathers did, the difference would not be so

The following announcement from an Havana exchange is significant with respect "and farms, with an aggregate value of \$601,-"sold at auction during present month by sponses of the owners of idle furnaces can "order of the courts." From the effects of

are prostrated as never before within a long of the kind. Three are under contract for period. Bankruptcy is almost universal, and the condition of the mercantile classes is Imperial Government for their relief. There is no need of a commission to consider the United States, or anything of the sort, but recting the evils which at present afflict the American citizens as individuals may see the opportunity for successful investment.

The Scheme to Restrict Production

The following is an abstract of the replies received to the last circular issued by Geo. H. Hull & Co., of Louisville, in reference to the plan to restrict the production of pig iron. The annual capacity of each plant is given, together with the name of the plant and that of the owner. The replies are in answer to the question, "How will you agree to restrict the production of pig at your furnaces within the next six months

> AGREEMENT TO RESTRICT. Maine.

Katahdin Furnace, Katahdin Furnace ompany, 6000 tons.—"By not blowing in before January 1."

Vermont.

Titan Furnace, Naylor & Co., 4000 tons. "By not running during next 6 months." New York.

Elmira Furnaces, Elmira Iron and Steel Rolling Mill Company, 35,000 tons.—"By remaining out for 2 months."

Furnaceville Furnace, Furnaceville Iron Company, 10,250 tons.—" By remaining out during next 6 months." Jagger Furnaces, Jagger Iron Company, 25,000 tons.—" By remaining out until Janu-

Onondaga Furnaces, Onondaga Iron Com-

pany, 36,000 tons.—" By remaining out until better prices obtain." Alpine Furnace, Z. N. Benton, 7300 tons

"By remaining out until July, 1885."
Copake Furnace, Frederick Miles, 4500
ons.—"By remaining out 30 days longer."
Millerton Furnace, Millerton Iron Comany, 4500 tons -"By remaining out until November I.'

Manhattan Furnaces, Manhattan Iron Works Company, 18,000 tons.—"By keep-ing one furnace idle for 2 months." Wassaic Furnace, N. Gridley & Son, 4000

tons.—"By remaining out until prospect improves." New Jersey.

Port Oram Furnace, Joseph Wharton, 16,000 tons.—"By remaining out 2 months." Warren Furnace, Joseph Wharton, 15,000 tons.—"By remaining out 2 months." Pennsylvania.

Emaus Furnace, Ormrod, Fisher & Co., 15,000 tons.-" By remaining out balance of

Lehigh Furnaces, Lehigh Iron Company, 28,000 tons.-" By remaining out for at

Chester Furnace, Chester Rolling Mills, 36,500 tons.—"By remaining out at least 3 months."

Montgomery Furnace, Montgomery Iron Company, 12,500 tons.—"By remaining out until January 1, 1885."

Moselem Furnace, Leibrandt & McDowell,

8000 tons.-"By remaining out

Norristown Furnace, James Hooven & on, 10,000 tons.—"By remaining out of

Glamorgan Furnaces, Glamorgan Iron Company, 16,000 tons.—"By remaining out until March, 1885."

Union Furnace, Beaver, Marsh & Co., 7000 tons.—"By banking and running at reduced capacity 3 weeks."

Cameron Furnace, Cameron Furnace Company, 9000 tons.—"By remaining out of blast."

Lochiel Furnace, Lochiel Rolling Mill Company, 7500 tons.—"By remaining out of blast for 3 months." Atlas Furnace, Red Run Coal Company,

Mahoning Furnace, Red Run Coal Company, occo tons.—"By delaying blowing in."
Mahoning Furnace, Wesley Wilson & Co., coo tons.—"By delaying blowing in."
Charlotte Furnace, Charlotte Furnace Com-- tons -" By remaining banked

pany, — tons — By remaining banked 30 days."

Edith Furnace, Manchester Iron and Steel Company, 32,500 tons.—By remaining out Company, 32,500 tons.—By remaining out Winona Furnaces, Edeking Iron Company, 13,000 tons.—By blowing out one furnace and by keeping one out of blast."

Akron, Bessie, Crafts, Thomas and Winona Furnaces, Columbus and Hocking

Erie Furnace, Rawle, Noble & Co , 10,000 tons.-" By remaining out of blast."

Sharon Iron Company's Furnaces, Sharon Iron Company, 24,000 tons.—'By banking one furnace from I to 2 months longer, and by keeping one out indefinitely."

Sharon Furnace, Boyce, Rawle & Co., 10,000 tons.—'By keeping furnace banked at least 4 weeks."

Stewart Furnaces, Stewart Iron Compa 50,000 tons.—"By keeping one stack idle for from 2 to 3 months."

Berlin Furnace, Jackson Iron Company ooo tons.—"By remaining out of blast." Carlisle Furnace, C. W. Ahl & Son, 4800 ms.—"By remaining out 5 months."
Falling Spring Furnace, C. Burkhart & 3000 tons.—"By remaining out until 0., 3000 tong

Franklin Furnace, Hunter & Springer, 500 tons.—"By remaining out at least 4

Logan Furnace, Valentines & Co., 4000 By remaining out of blast. Virginia.

Amherst Furnace, Wm. H. Jordan, 2500 ons.—"By remaining out 6 months." Cave Hill Furnace, R. Sayers & Co., 3500 By blowing out in December and remaining out until trade improves."
Mine Run Furnace, John C. Karsten, 3000 "By remaining out of blast.

Van Buren Furnace, Frank King, 2500 tons.—"By remaining out until spring."
Victoria Furnace, Iron and Steel Works
Association of Virginia, 30,000 tons.—"By banking at sufficient intervals to aggregate 30 days, or by delaying going into blast."

West Virginia.

Belmont Furnace, Belmont Nail Company, 18,000 tons.—" By remaining idle 3 months Top Mill Furnace, Wheeling Iron and Nail Company, 25,000 tons.—"By remaining banked for 4 weeks."

Riverside Furnace, Riverside Iron Com-any, 26,000 tons.—"By banking October

Capon Furnace, Keller & Co., 1500 tons. By remaining out until April, 1885. Kentucky.

Licking Furnace, Swift's Iron and Steel Works, 17,000 tons.—"By blowing out or

banking Red River Furnaces, Kentucky River Iron

Tennessee.

Oakdale Furnace, Oakdale Iron Works, 21,000 tons.—" By remaining out until prices materially improve." Roane Furnaces, Roane Iron Company, 30,000 tons.—"By blowing out one furnace for 60 days."

Etna Furnace, Jno. E. Stillwell, 35,000 ons .- " By blowing out in December and remaining out perhaps until spring. Cherokee Furnace, Cherokee Iron Company, 11,000 tons.—"By delaying blowing

in until after January 1, 1885. Alabama.

Edwards Furnace, Edwards Iron Com-pany, 11,000 tons.—" By remaining out for 60 days."
Sloss Furnaces, Sloss Furnace Company o,000 tons.—"By delaying blowing in No. Furnace until October 15. Will co-operate

fully if movement is universal." Woodstock Furnaces, 15,000 tons.—" By keeping one furnace out 4 or 5 weeks and

reducing blast."

Bloom Furnace, J. D. Clare & Co., 3000

cons.—"By blowing out for 3 months." Buckeye Furnace, Buckeye Furnace Com-cony, 5000 tons.—"By blowing out." Buckhorn Furnace, Campbell, McGugin & Co., 3000 tons.—"By remaining out until prices improve."

Olive Furnace, Campbell, McGugin & Co., 4000 tons.—"By banking for three Hecla Furnace, Hecla Iron and Mining

Company, 3500 tons.—"By delaying blowing in 1 month." Logan Furnace, Logan Iron Company, 3000 ons.—"By remaining out 6 months." Belfont Furnace, Belfont Iron Works Com-

pany, 15,000 tons.—"By blowing out or banking for from 30 to 40 days."

Elisa Furnace, Eliza Coal and Iron Com-pany, 6000 tons.—"By remaining out of blast." Ironton Furnace, New York and Ohio

Iron and Steel Company, 17,500 tons.—"By remaining out until December 15, 1884." Milton Furnace, Milton Furnace and Coal Company, 8000 tons.—"By remaining out of blast 6 weeks."

Tropic Furnace, Tropic Furnace Company, 5500 tons.—"By remaining out of blast 6 months."

Sarah Furnace, H. Campbell & Sons, 10,000 tons.—"By remaining idle for 6 onths."
Weilston Furnaces, Wellston Coal and

Iron Company, 7300 tons.—"By delaying blowing in until October 1. Will then have Hamilton Furnace, Means, Kyle & Co., 10,000 tons.—"By remaining out."
Cherry Valley Furnaces, Cherry Valley

Iron Company, 40,000 tons.—"By keeping one furnace out of blast."

Brier Hill Furnaces, Brier Hill Iron and

Coal Company, 90,000 tons.—"By blowing out largest furnace for 6 weeks and keeping

out of blast two others now idle."

Eagle Furnace, Eagle Furnace Company, 17,000 tons.—"By remaining out of blast 3

Girard Furnace, Girard Iron Company, 20,000 tons.—"By remaining out until November 10, 1884, unless we need metal for our own mill."

Hubbard Furnaces, Andrews & Hichcock, 45,000 tons.—"By banking furnace at any time when we have iron on yard to supply

our regular customers."
Fannie Furnace, Licking Iron Company,

Dover Furnace, Penn Iron and Coal Com-pany, 15,000 tons.—"By banking for 2

Zanesville Furnace, Ohio Iron Company, 18,000 tons.—"By remaining banked until November 1, 1884."

Indiana.

Vigo Furnace, Vigo Iron Company, 8000 tons.—"By remaining out of blast."
Brazil Furnace, Central Iron and Steel Company, 10,000 tons.—"By remaining out about 2 months." Illinois

Big Muddy Furnace, Lewis Iron Com-pany, 15,000 tons.—"By remaining out of blast."

Calumet Furnace, Calumet Iron and Steel Company, 45,500 tons.—" By remaining out until May, 1885." Missouri.

Jupiter and Vulcan Furnaces, St. Louis Ore and Steel Company, 88,000 tons.—"By remaining idle certainly until January 1, 1885, and perhaps until March 1, 1885."

Michigan.

Leland Furnace, Leland Iron Company, 9000 tons.—" By blowing out about October Martel Furnace, Davenport, Fairbairn & Co., 16,500 tons.—"By blowing out to re-

Pine Lake Furnace, Pine Lake Iron Com-pany, 15,000 tons.—"By blowing out on October I and remaining out until spring."

Eureka Furnaces, Eureka Iron and Steel
Works, —— tons.—" Will agree with others
under arrangement proposed."

Samuel F. Hodge & Co., of Detroit, have secured the contract for furnishing the Penn Iron Mining Company with a new pumping plant that is to cost \$25,000.

Wisconsin.

Fond du Lac Furnace, Fond du Lac Iron company, 10,000 tons.—" By remaining out

Green Bay Furnace, National Furnace Company, 8000 tons.—"By remaining out

Lou-Ellen Furnace, Marshall Car-Wheel and Foundry Company, — tons.—" By remaining out of blast 3 months."

Colorado.

Manufacturing Company, 10,000 tons.—"By remaining out of blast."

Colorado Furnace, Colorado Coal and Iron Company, — tons.—"By banking for at least 4 weeks."

Not agreeing to restrict.

New York.

Sterling Furnaces, Sterling Iron and Railway Company, — tons.—"We would not care to join in restriction unless it was a We would not mutual and several agreement on part of various furnaces of country."

New Jersey.

Chester Furnace, W. J. Taylor & Co., tons.—" Have been idle 4 months; will enter no agreement now." Pennsylvania.

Bloom Furnace, Wm. Neal & Son, tons.-" Are running on anthracite and cannot bank. Irondale Furnaces, Bloomsburg Iron Com-

pany, — tons.—" Cannot bank; furnaces not calculated for so doing; may blow out soon, however." Lackawanna Furnaces, Lackawanna Iron

and Steel Company, — tons.—" We do not make pig to sell, but consume our entire

Chickies Furnaces, Chickies Iron Company, — tons.—"Decline to enter agreement."

Colebrook Furnaces, Robert H. Coleman, - tons. - "Are under contract.

Paxton Furnaces. McCormick & Co., — tons.—"Will not blow in until November 1, but decline to bind ourselves to any line of

Neshannock Furnace, Crawford Iron and Steel Company, — tons.—"Have been stopped 6 weeks. Will make no promises."
Pioneer Furnaces, Pottsville Iron and Steel Company, - tons.-" Use all our own

Mont Alto Furnace, G. B. Wiestling, tons.—"Have delayed blowing in 5 weeks." Virginia.

Crozer Furnace, Crozer Steel and Iron Company, — tons.—"President absent and can take no steps toward restricting production.'

West Virginia.

Irondale Furnace, J. Nemegyei, — tons. Cannot agree.

Alabama.

Woodward Furnace, Woodward Iron Company, — tons.—"Cannot see it to our in-terest." Ohio.

Star Furnace, Star Furnace Company,
— tons.—"Do not believe it the proper
way to regulate prices." Anna, Falcon and Phoenix Furnaces, Brown, Bonnell & Co., —— tons.—''We use all our pig, and it is impossible for us to say

when we can bank our furnaces."

Mary Furnace, Ohio Iron and Steel Company. —— tons.—"Are under contract."

Jefferson Furnaces, Jefferson Iron Works,

— tons.—" Decline to agree."
Pine Grove Furnace, Means, Kyle & Co. tons.—" Will not stop on account of large amount of charcoal on hand."

Mt. Vernon Furnace, H. Campbell & Co., — tons.—" Will make only 1000 tons during next 6 months.

Wisconsin.

National Furnaces, National Furnace Com-any, — tons.—"Are working on con-

A Geyser in Broadway.-The pipes of A tiesser in Broadway.—The pipes of the New York Steam Heating Company sup-ply the building No. 191 Broadway, New York, at the corner of Doy st., with heat and power. For a distance of 10 feet the pipes are exposed where they run under an iron stoop into the cellar. The floor of the basement is occupied by the Brooklyn Fire Insurance Company. At 2 o'clock in the afternoon of the 16th inst., while the street was crowded with pedestrians, a hissing noise was heard, and the next moment a Coal and Iron Company, 50,000 tons.—"By delaying blowing in for 1 month."

Franklin Furnace, King, Gilbert & Warner, 12,000 tons.—"By remaining out of blast for 6 weeks."

John March 1989

Volume of steam rose in the air. One of the stop-cocks had been blown off by the unusual high pressure. The clerks of the insurance company rushed out into the street hatless, and the pedestrians scattered in every direction: horses reared and bevolume of steam rose in the air. One of in every direction; horses reared and be-came terrified. Then a loud report was heard and the building was shaken. Everything was confusion, and the occupants thinking it was an earthquake, deserted their desks and fled for safety. An immense volume of water and steam, like a picture of one of the geysers in Iceland, rose into the air to the hight of 40 feet, while smaller the air to the hight of 40 feet, while smaller geysers spurted from the open spaces in the iron stoop. Fortunately no one was on the stairway at the time of the explosion. It is more than likely that the force of the spouting steam would have carried everything before it. The grand sight attracted thousands to the spot, and for over an hour traffic was blocked. For a time excitement and terror reigned supreme, but when the frightened people saw that the phenomenon was ened people saw that the phenomenon was attended by no serious results they became calm, and after a time visited the spot and gazed upon the steam. The necessary repairs were made before night.

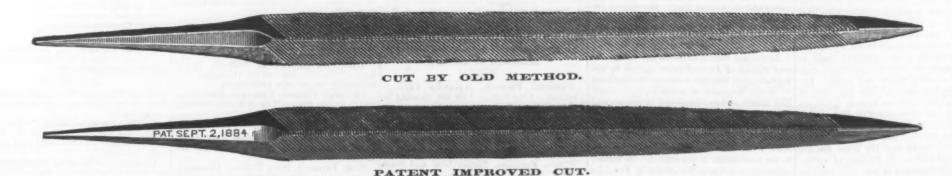
> An Associated Press dispatch says that a notice is posted in the works of the E. & G. Brooke Iron Company, of Birdsboro, Pa., of a 10 per cent. reduction in the salaries and wages of the employees except the day laborers. The reduction is to take effect October 1. The works include a rolling mill, furnaces and nail mill. They employ altogether about 600 hands.

Samuel F. Hodge & Co., of Detroit, have

NEW AMERICAN FILE CO., PAWTUCKET, R. I.

MANUFACTURERS OF

FILES AND RASPS.



all whom it may concern:

There has been just cause for complaint at the edges of the Three-Square Files breaking down. Every manufactory in the country makes Three-Square Files by the same method, and every user of the Three-Square File is aware that their edges have always been defective. With these facts in view, we present to the public a Three-Square File whose edges are as strong as its sides. The mode of manufacturing these PATENT Three-Square Files is very simple of itself; still, those who have used them will affirm that they will do twice, and some four times, as much work as any Three-Squares they ever used.

even four times, as much work as any Three-Squares they ever used.

See below names of Representative Corporations, Firms and Individuals who have used and reported upon this improved Three-Square Saw File.

We do not claim that the superiority of this PATENT Three-Square is the result of any Hocus Pocus process, as any mechanic can see at a glance that from the mechanical construction of its edges it must of a necessity do more work than any file of its kind ever before offered to the public.

To the dealer this file will yield a handsome profit, and to the consumer One Hundred per cent. advance in price would not warrant buying any other file of its class. We warrant every file to do twice the work of any other Three-Square Saw File that can be produced, "either Foreign or Domestic." BEWARE OF IMITATIONS.

Write for Sample Lot, Price and Terms.

March 19th, 1884.

The Files are the best and the primiple perfectly right. Our Foreman claims he can flie three times as many band saws with your File as any other.

P. H. SKIDMORE & SONS, Bridgeport, Conn.

March 12th, 1884.

One carpenter says he filed his saw eleven times rith one File and it was good for two more.

P. D. CONANT & CO., Hardware, Fall River, Mass.

January 2:d, 1884.
We gave the File to the man having the hardest work for such Files, and he is satisfied it will do the work of two double-end Files, and he thinks it will do as much on hard steel as four double-enders. The File scarcely shows signs of wear.
R. BLISS MFG. CO., Pawtucket, R. I.

March 24th, 1884.

Your Files are the best I ever used, and will do

wice as much work. L. POWER & CO.,
20 So. 23d St. Philadelphia.

March 28th, 1884.

The Flies are the best and the principle is right.
One man filed more saws with one edge than he could with the three edges of any other File we ever used.

JOHN M SMITH & SONS, 1423 Spring Garden, Philadelphia.

March 18th, 1884.

The File is a very good one in regard to corners.

With one corner have filed three saws. Our saws have to be very hard to saw scapstone slabs.

PHILADELPHIA SOAPSTONE WORKS.

Philadelphia.

March 23d, 1884.

The Files are the best. Will file three times as many saws as other tapers. Our saw man did not want to use it. Said he knew all about those things, but owned up like a man after he had tried it.

SWEET MFG. CO.,

Syracuse, N. Y.

March 22d, 1884.

The Files are the best and the principle is right.

Have used Files for 36 years. Yours are the best of ail.

No. 5 Chant St., Philadelphia.

February 8th, 1884.

The Files are the best. For Band Saws there is o better. Filed ten Band Saws with one File...

WILMARTH & MACKILLOP,

Pawtucket, R. I.

The Files are the best and the principle is right. If this is a sample of File you intend to make, you will have a good market in Philadelphia for them.

DANIEL LANARD
Philadelphia.

March 6th, 1884,
The Files are the best. One side of the File you left with me for trial has sharpened two circular saws, 12 m. diameter, and four hand saws, "hard ones," and my Foreman says it is the best File he ever used. JOHN ORITION, M. M., N. Y. C. & H. R. R. Co., West Albany, N. Y.

The Files are the best Have filed eighteen aws with one File.

R. L. DARLING, Fall River, Mass.

File is good; Principle right. Would recommend them in preference to any other. I think they will file two to three times as many as any other.

J. F. BROWN, 125 Albany St., Boston, Mass.

April 4th, 1884. he File we used was pronounced first class, and do twice as much as an ordinary taper. SPBING PERCH CO., Bridgeport, Conn.

April 4th, 1884.

I filed all my saws, which was five, with one corner: the last was better than the first. I thought I had better stop, as I should never need another File.

J. B. STILES,

41 N. 7th St., Philadelphia.

March 29th, 1884.
The Files are the best; the principle is right.
Send me one dozen 5-inch Slim Taper and one
dozen 8-inch Mill.
H. E. HUBBARD,
Hartford, Conn.

January 3cth, 1884.

The Files are the best I ever used, and I use them extensively. Filed fourteen saws with one File.

IVORY T. LOWE, Fall River, Mass.

January 25th, 1884. The Files are the best, SIMONDS MFG. CO., Fitchburg, Mass.

January 4th, 1834.
We are of the opinion they will file five times as any saws as any other File, and in future will see no other.

R. H. SIMMONS & SON,
Central Fells, R. I.

Pawtucket, R. I.

Pawtucket, R. I.
T. C. Barnes,
Paw't Steam & Gas Pipe Co.,
H. W. Shaw,
Uhas. T. Hopkins,
J. R. Beiffeld, M. M.,
H. M. Rounds,
H. N. Reed & Co.,
J. S. Capron,
Pawtucket Hair Cloth Co.,
R. I. Cardboard Co.,
R. I. Cardboard Co.,
R. Blies Manufacturing Co.,
Union Wadding Co.,
J. S. White,
R. H. Simmons & Son,
D. W. Southwick,
George Robinson,
T. D. Rice & Co.,
Central Falls Woolen Co.,
O. H. Smith,
Fales & J. nks Machine Co.
James Browa, Fales & J nks Machine Co.
James Brown,
W J. Hood,
Weatherhead, T. & Co.,
Slater Cotton Co.,
J. T. Cottrell,
American Supply Co.,
Geo. W. Arnold,
Wilmarth & McKillop,
D. A. Kelley,
Frank Lambart,
Dempsey Bros.,
J. O. Draper & Co.,
Greene & Daniels M'f'g Co.

New York.

New York
F. A. Baiar,
L. H. Hoffman,
D. Morrissey,
M. L. Kenney,
Chas. West,
Chas. West,
Chas. B. Many
Wm. V. Vanzandt,
Samuel Tyrreli,
James A. Allen,
Michael Joyce,
Henry Eggert,
George Barrow,
Thos. S. Reisman,
Frank R. V. heaton,
Wm. H. Conneelly,
A. Kimbai & Son,
James Fee,
W. McDonough,
F. A. Seighardt,
Joseph Cabus,
Freeland Tool Works,
F. Mahtstadt,
John Jennings,
S. Protsche,
Thomas Keogan,
George May,
Joseph Darwent,
H. Mandeville & Son,
Howland & Lein,
D. Dode,
P. Pryibil, Nowman & Lein,
D. Dode,
P. Pryibil,
E. Lewis,
Weser Bros.,
J. P. Ryan,
James H. Taiman,
John L. Carr,
John Croak,
Geo. Steck,
G. Ryerson,
F. Freeland,
G. Schoonmaker,
Ed. J. Holden,
John Kircher,
Woodruff, Renklin & Bayer,
E. H. Hinners,
J. Dimgot,
J. M. Brunswick & Balke Co.

Jersey City. B. F. Cordnam, James Rafter, John H. Rafter, Stephen Richards, Chas. H. Pulls, Robert Hood, Fisk & Wilbur, M. Farley.

Boston, Mass. M. Cushman,
J. Whitehead,
T. P. Margerson,
Rowell O' Brien,
H. Heimbold,
D. W. Hurd,
Frank Sheffield,
Edward C. Nichols,
Amos Doe
Hammond & Son,
Charles Fuller,
J. M. Do loff,
T. F. Brown & Co.,
C. Sullivan. T. F. Brown & Co., C. Sullivan. J. E. Joseylin, George E. Weber, P. W. Case, T. H. Reynolds, R. O. Dunn. H. H. Wakefield, Alox. B. Pinkham,

Boston Nickel Plate Co., G. C. Lowe, A. S. Haven, Joseph Woodward, Daniel Canty, A. Ceppi & Co., Benj. Merritt, H. G. Healey, Wm. D. Egan, Briggs Bros., W. T. McFarlaud, James Millgan, James Milligan, Ira C. Bumpas, F. Lothrop. Geo. J. Stevens, W. H. De Lue. B. E. Heminway.

Brooklyn, N. Y. Brooklyn, N. Y.

Wm. D. Kinkade,
Thos. Kippler,
David H. Williams,
Cross, Aussin & Co.,
Samuel Drew,
E. F. Herd,
Dominick Defilippi,
B. S. Bozard,
Wm. Heary Stevens,
G. W. H. Andrew,
James B. Twaits,
Cheeseboro, Whitman & G.,
C. H. Tiebout,
E. Dawling,
John Halbya,
K. B. Nimmo,
M. J. Murphy,
Thos Slagg.

M. J. Murphy,
Thos Slags,
John T. Perry,
Wm. J. Megram,
Philip H. Gill.
Thomas Lynch,
Oornelius Hoogland,
Frank Schmachtenberger,
Joseph Larner,
Samuel E. Burtis,
Wm. Nicoll's Sons,
Thomas Singleton,
Edward Morton,
Bishop Bros.,
G. & C. Pastield,
Henry A. Rogers,

Woonsocket, R. I. B. S. Darling
J. E. Bradford,
H. C. Lazelle,
W. H. B. Ixtor,
Mathew Marty,
J. McCloskey, M. M.,
Chas. Berard,
John Dixon,
D. S. Fuller,

Bristol, R. I. Herreshoff Mfg. Co., Namquit Mills.

Syracuse, N. Y.

Fall River, Mass, I. P. Lowe, O. N. Shaw W. H. Braly, John H. Chalk, N. P. Tillson, T. T. O'Keefe, J. T. Jones, J. T. Jones,
Barnard Manufacturing Co.,
Wm, Kirker,
H. N. Durling, M. N. Diring,
Wm Prosser,
Joseph F. Martel,
Peter Ney,
E. M. Pierce,
Daniel Gladding,
Ely Morell,
F. S. Bliffins,
John Tomilisson, John Tomlinson, Chas. H. Hodgate, Henry D. Damon, W. B. Smith, P. D. Conant & Co., Philip Grinnell.

Hartford, Conn. F. L. Ford, A. J. Stone. F. L. Ford,
A. J. Stone,
Hartford W. W. Mattress Co.,
Strickland & Shay,
John C. Mead,
L. B. Moody,
W. M. Clark,
W. E. Dester & Co.,
E. A. Lane,
H. N. Jones, & Co.,
C. H. Roberts,
Pratt & Whitney Co.,
Barrett Bros,
G. P. Farr. Barrett Bros, G. P. Farr, H. E. Hubberd,

New Haven, Conn.

A. D. Tyrill, W. G. Shepherd & Co., John J. Dinman, Clark & Beardsley, New Haven Clock Co., Thomas Alling, Brett & Manning, R. Field, E. A. Folsom, Sargent & Co.

New Bedford, Mass. New Bedford, Masamuel T. Bennett, Daniel A. McKinzie, Brown & Co., O., Haskins & Co., Orville Haskins, M. F. Kennedy. Brownell, Ashley & Co., Jethro C. Davis. Edward B. Coffin, Masher & Brownell, C. F. Clark, Wm. A. Kirby,

Providence, R. I. Albyn Arnold, Cleveland Brothers, Cleveland Brothers, George Stewart, R. I. Braiding Machine Co., G. W. Pratt, Supt., Wm. B. Healey. Prov. Saw and Tool Works, A. White. P. & W. B. R. Repair Shop, Rarstow Stove Co. P. & W. R. R. R. Repair card Barstow Stove Co., Harvey Screw & Bolt Co., Towel Rack & N. Mfg. Co., Providence Machine Co., Wm. A. Harris, Geo, B. Underwood.

Waterbury, Conn. L. A. Heimer, James Stovel, James S Neill, A. S. Jenks, W. A. Brown.

Worces er, Mass. Worces er, Ma
L. Moore,
W. H. Walker,
C. B. Rawson,
J. B. Cummings,
Jason Putnam,
Wetherby, Rugg & R.,
F. M. Cross,
E. C. Smith,
J. D. Seagraves,
Chas. Clark,
Chas. L. Palmer,
Horace A. Richardson,
Jeremiah Winn,
A. Burlingame, A. Burlingame, H. A. Richardson.

Taunton, Mass. Taunton, Ma W. H. Chaco, Wm. W. Davis, Nathan Rand, Eugene P. Bassett, F. R. Washburne, Emerson Babbitt, E. W. Strange, Everett Fuller, Peck & White, F. A. Bliss, Whittenton Mfg. Co., Chace R. Pierce.

Springfield, Mass. F. M. West, C. H. Annable, Allenson Johnson, Geo. E. Page, H. J. Chandler, Asa C. Woodward, E. S. Stacy, Asa Fisk.

Philadelphia.
Phila Soap Stone Works,
James Buist, Jr.,
Wm. D. Stride,
Aug. Westenberg,
R. Bobinson,
E. P. Sid-I,
Harry B. Yeager,
McCracken, Hask & Co.,
John T. Speakman,
T. Callahan,
J. Callahan,
J. Callahan,
James L. Lyle,
W. H. Shourds,
James Dunlap,
H. B. Tawresey,
D. P. Seipel,
George Zippler,
John H. Zippler,
Theo. Gullman,
Daniel Lanard,
John M. Smith & Sons,
J. Jacob Shannon,
David Gardiner,
The Machine Tool Works,
D. W. Kisenberg, Philadelphia.

Rufus R. Thomas & Co.,
Ridgeway Pat Refrigerator
Co (Limited.)
P. B. Stines,
James S. Simpson,
L. Power & Co.,
G. A. Hoover,
Westcott & Thompson,
Wm. Thumager,
American Meter Co.,
H. F. Foster,
Andy Will,
H. Nicholls,
W. D. Burkhari,
C. Kellev,
Jacob Rush,
Geo. B. Russell,
Chas. B. Stroude,
Henry Lott.

Troy, N. Y. N. R. Dutcher, Geo. Vallier, N. B. Gardner, John Gocha, F. N. Barge, Frank F. Salsbury.

Albany, N. Y. Erastus Ewing, Ed. A. Walsh, Julius Hakin, Julius Hakin, P. K. Dederick & Co., S. Kiegser, John Stotk, Littlefield Stove Co., John Ortton, M. M., Otto N. Hanson, Geo. H. Cheney, John Mileri k. C. H. Havens, Eugène H. Harris, Marshall & Wendell, E. McCarnon, Chas. H. Rossner, E. M. Cameron, W. T. Burgess, C. R. Becker, Nicholas Colling, Albany, N. Y.

Bridgewater, Mass. Bridgewater Iron Co., Eagle Cotton Gin Co.,

Pittsfield, Mass. W. C. Stevenson, Franklin Carpenter, Dennis Blair, Michael Boudoin, Alfred Brock, Chas. H. Hubbard, James Mangan, E. Williams James Mangar E. Wil iams, A. F. Garlerd.

Bridgeport, Conn. Wm. H. Playfoot, Lewis F. Ward, O. Koenan, F. H. Skidmore & Sons, Talsott Barlow, Geo. F. Barlow, O. S. Platt & Co., Spring Perch Co., The Elwell & Kean Mfg. Co., Leonard Pratt. The Elwell & Kean Mi Leonard Pratt, The Wales Whoel Co., W. H. Cutts, Jr., W. M. Harris, J. E. Shaw.

New London, Conn. New Lordon, Contr.
T. E. Beach.
Albertson & Douglas M. Co.,
Geo. A. Richards,
W. H. Burdick,
John A. Comstock,
Reeves & Kelly,
Geo. B. Miller,
Geo. W. Rogers,
John G. Butler,
Jos. L. Roube.

Westerly, R. I. Albert S. Maine, C. W. Willard, James A. Horton Chas. B. Barker,

Chester, Pa. J. Irvin Taylor, Robert Wetherell & Co. Fitchburg, Mass.

Manchester, N. H. B. F. Porter, S. C. Forsaith & Co. Ansonia, Conn.

January 24th, 1884.

Have filed six or seven saws with the sample you left. Good for three or four more.

B. L. DARLING, Woonsocket, R. I.

Blow Huye Boile Coes Boile Cress Boile

Wm. The a

Bolt : Cham Bolt : Hows Seller Libe Wiley Borin Ives,

Brack Penn

Brass Water

Bridge Mosele N. Y. Union

Brushe

Bucket Iron Ch

Butche furer Wilson

Stanley Union I Car Ax Roberts

Carria

Carring E. D. Cl Smith H Woodru Upson M

Casters. Payson Phoenix

Casting S. Chenc Devlin T Haight I Hamme North B Syracus Tatum S Wetheri

January 22d, 1884.
The Files are A No. 1. We do not think we ever had a better File in our shop. The sample was splendid.
PROVIDENCE SAW AND TOOL WORKS,
Providence, M. L.

January 21d, 1834.

The Files are the best I ever used. Will file three times the saws as other tapers. Please give me address where I can nuy a couple of dozen 4 and 4% inch.

ALBYN ARNOLD, Providence, R. I.

The Files are the best. I filed two Disston at No. 12 and two 26 No. 9 with one corner of your File. I have used one entire File with one of them. I think your Files will do more than Stubbs' of equal levgth.

C. H. HODGATE, Fall River, Mass.

The Files are the best. The File tested per-formed as much work as three of the files before used. WM. A. HARRIS Providence, R. I.

February 5th, 1884.

The Flie is the best. Have filed six buck saws, and is good for quite a number more. Ordinary flies file three saws. I think the corners right. Ordinary files crumble off the corners.

NATHAN RAND, Taunton, Mass.

April 3d, 1884.

I cannot express words high enough, for they are perfection, both in edge and flat surface. The teeth give a clear cut, throwing the dust clear of the tooth, so disreasing with stopping to wipe the dust from the File. In conclusion, it is the keenest, swittest and cleanest-cutting File I ever used, and I have used all makes of English files.

W. H. STROUDS,

605 N. 13th St., Philadelphia.

We have in our employ 12 carpenters, and they have all tried your Files, and they all say it is the best File that has ever been invented. I can say for myself it is perfect. You are at liberty to use our name.

GEO. F. BARLOW,

Bridgeport, Conn.

February 8th, 1884.
The Files are the best; the principle is right; will file twice as many saws as other tapers; would recommend them in preference to any others.

AMOS CORNELLI,
New Bedford, Mass.

I never used a File that cut so fast or hasted so long as the sample.

PRATT & WHITNEY CO. C. H. B. Hartford, Com.,

January 31, 1884.

Have filed two saws with one corner and find it wears and don't break down; it is good to file two more saws with the same corner.

T. T. O'KEEFE,
Fall River, Mass.

The Files are the best. We had one of our customers we sold one to, come back and buy a dosen

JOSE'H MARLET,
Fall River, Mass.

January 28th 1884
They will file three times as much as any other taper. If quality is kept same as sample will not use any other. EDWARD C. NICHOLS, 5 Providence St.

I agree to above.

AMOS DOE, Highlands, Boston Mass

The Files are the best. We have tried your Files and they are good.
C. SULLIVAN.
J. A. JOSSLYN,
GEO. WIBER

234 Ruthford Ave., Charlestown, Mass. April 5th, 1864.

The Files are the best, and principle rights. Welle twice as many saws as other tapers. THE MACHINE TOOL WORKS, 24th and Wood Sta., Philadelphia, Pa

March sist 1884.

Please send us by bearer one dozen each, three-cornered, as per samples, &c. The sample sent us for trial has given entire satisfaction, and we are well pleased.

THE J. M. BRUNSWICK & BALKE CO.,

New York,

The Files are the best; will file twice as many aws as other tapers.

HERRESHOFF MFG. CO.
Bristol, R. I.

THE Iron Age Directory Index to Advertisements. Agricultural Implements. Ewald Over, Indiana, Air Compressors. Clayton Steam Pump Works, Brooklyn. 46 Norwalk Iron Works, S. Norwalk Air Brakes. Westinghouse Air Brake Co., Pittsburgh Alarm Money Drawers. Tucker & Dorsey Mfg. Co., Indi Anti-Friction Metals. Du Plaine E. A. C., Chicago Reeves Paul S., Philadelph Anvils, Manufacturers of.
Boker Hermann & Co., 101 and 103 Du Cheney Anvil & Vise Co., Detroit, Mich. Fisher & Norris, Trenton, N. J. Arms and Ammunition. Alford & Berkele Co., 77 Chamber Hutchinson J. W., 81 Chambers, N Shoverling, Daly & Gales, 84 and 86 hoverling, Daly & Gales, 84 and 86 bers, N. Y. mith Otis A., Rockfall, Conn.... tevens J. & Co., Chicopee Falls, M. Artesian Well Supplies. The Asbestos Packing Co., Boston, McChaircers-Spence Co., 419 8th, N. Y. Asbestos. Chalmers-Spence Co., 419 8th, N. Y....... I.
Asbestos Paints.
H. W. Johns Mfg. Co., 87 Maiden Lane, N. Y. 8 Augers and Bits. Jennings C. E. & Co., 96 Chambers, N. Y Tennis & Wilson, 294 Broadway, N. Y... A xes. Mann W. Jr. & Co., Lewistown, Pa Peck A. G. & Co., Cohoes, N. Y..... Bankers. P. W. Gaullandet & Co., 2 Wall, N. Y. Bar Iron. Virginia Nall and Iron Works Co., Lynch Barb Wire and Fence. Haish J. & Co., DeKalb, Ill Hawk Kye Steel Barb Fence Bellows, Manufacturers of. Bullock T. H., Cleveland, O., Flaccus Wm. & Son, Pittsbur Scott Geo. M., Chicago, Ill.... Bells (Sieigh). Bevin Bros. Mfg. Co., Easthamp Chapman Mfg. Co., Meriden, Co Chapman and Belting, Makers of. Belting, Makers of. Belting, Makers of. Maker Post E. L. & Co., 10 Peck Slip, N. Y. Bicycles. Pope Mfg. Co., 597 Washinton, Bos

Bird Cages, Makers of. Jewett John C. & Sons. Buffalo, N. Y... Pierce Geo. N. & Co., Buffalo, N. Y... Lindeman O. & Co., 254 Pearl, N. Y... Maxwell John, 247 and 249 Pearl, N. Y.

Bit Braces. Amidon & White, Buffalo, N. Y Ives W. A. & Co., New Haven, Bit Gauges, Millers Falls Co., 74 Chambers, N. Blank Books, Manufacturers of. Ailen Wm. & Co., 446 Broome, N. Y Blind Awning Fixtures. North F. O. & Co., Boston, Mass..... North F. O. & Oo., Boston, Mass.

Blecks, Tackle, Makers of,
Bagnall & Loud, Hoston, Mass.
Cleveland, Block to, Cleveland, O.,
Detroit Block Worzs, Detroit, slich
Lovejoy J. F., 102 Chambers, N. Y.,
McCloy & Sanders, 20 Warren, N. Y.,
McMillan Wm. H., 113 South, N. Y.,
Pennield Block Co., Lockport, N. Y.,

Blowers, Forge and Pressure. Beiler Cleaners. Cockshutt & Lord, Savannah, Ga. Boiler, Compound. Crescent Mfg. Co., Cieveland, O.

Boiler Feeders. Bailers, Steam, Babook & Wilcox Co., 30 Cortlandt, N. Y Edge Moor Iron Co., 71 Liberty, N. Y.... Harrison Boiler Works, Philadelphia Wetherlii Robt. & Co., Chester, Pa....

Beiler Plates. Wm. McIlvain & Sons, Reading, Pa. The Seidel & Hastings Co., Wilmin Bolt and Rivet Clippers.

Boring Implements. Ives. W. A. & Co., New Haven, Conn. Boxes for Hardware. Green S. H., 12 Surray, N. Y. Brackets. Penn Huw. Works, Reading. Pa Brass, Manufacturers of.
Ansonia Brass & Copper Co., 10 Cliff,

i, Y dgeport Brass Co., 19 Murray, N. Y. own & Bros., 81 Chambers, N. Y. vol John & Sons, 100 John, N. Y. dmes, Hooth & Haydens, 25 Parκ Pla & Atwood Mfg. Co., 18 Murray ome Iron Works, Rome, N. Y.... coville Mfg. Co., 421 Broome, N. Y. Vaterbury Brass Co., 296 B'way, N Brass Butt Hinges. Tiebout W. & J., 16 & 18 Chambers, N.

Brass Founders.
McFarland Wm. Trenton, N. J. 4
Reeves Paul S. Philadelphia 48
Reynolds Markin, Brooklyn, E. D., N. Y. 14 Brass Goods. Waterbury Mfg. Co., Waterbury, Conn... 2 Bridge Builders.
Moseley Iron Bridge & Roof Co., 5 Dey, N. Y. Union Bridge Co., 59 Wall, N. Y.... Brushes. Bromwell Brush & Wire Goods Co., Cin-

Buckets, Pump and Elevator. Iron Clad Mig. Co., 22 Cliff, N. Y. Butcher and Shoe Knives. Manufacturers of.
Wilson John, Shoffeld, England hn, Sheffield, England. Butts and Hinges. Smith & Egge Mg. Co., Bridgeport. Stanley Works, New Britain, Conn Union Mg. Co., 96 Chambers, N. Y.

Car Axies.
Roberts A. & P. & Co., 265 S. 4th, Phila. Carriage Bolts. Makers of. Townsend, Wilson & Hubbard, Phila. Carriage Hardware. Makers of. K. D. Clapp Mfg. Co., Auburn, N. Y..... Smith H. D. & Co., Plantsville, Conn... Woodruff, Miller & Co., Mount Carmel . Upson Nut Co., 39 Chambers, N. Y.

Casters.
Payson Mfg. Co., Chicago, Ill.
Phoenix Caster Co., Indianapo

Phonix Caster Co., Manlius, N. Y......
S. Cheney & Son, Manlius, N. Y.....
Devlin Thos. & Co., Philadelphia, Pa.
Haight & Clark, Albany, N. Y.....
Hammer & Co., Branford, Com.
North Brothers, Fhiladelphia, Pa....
Syracuse Mall. Iron W'ks, Syracuse,
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This work gives an illustrated account of the leading types of marine engines con-structed during the past ten years in this country and Europe. The engines illustrated country and Europe. The engines illustrated are in most cases reprinted from Engineering. They are given in great detail, and embrace all classes, from the heaviest engines for ocean steamers and ships of war to those used in steam yachts and launches. The plates are fine examples of the engraver's art, and, together with the accompanying reading matter, present the latest practice of the best engineering firms. Besides marine engines, the work includes descriptions and illustrations of other machinery, such as engines, the work includes descriptions and illustrations of other machinery, such as steam dredges, hoisting machines, engines for cable-towing, &c. Many novelties of construction are presented, and engineers cannot fail to be interested and benefited by careful examination of these suggestive studies and elaborate details.

Eissler.—The Modern High Explosives; Nitro-Glycerine and Dynamite. By Manuel Eissler, Mining Engineer; 129 illustrations, 395 pages, 8vo, cloth. . . . \$4

The work treats of the manufacture of nitro-glycerine and of its compounds, known under the general name of dynamite. It gives instructions how to handle, use, transgives instructions how to handle, use, transport and apply them in mining and engineering problems. The manner of applying electricity in mining and blasting operations is shown. It contains a treatise on gun-cotton, fulminates, picrates and chlorates, with the chemistry and the analysis of the elementary bodies which enter in the manufacture of the principal nitro compounds. Submarine blasting and tunneling are considered, and detailed accounts are given of some great mining problems carried out with the aid of explosives. Reports are included and illustrations shown of the blasting operations at the Suez, Panama and Corinthian canals, of the removal of the Hell-Gate rocks and of other important public works. of other important public works.

Box, Thomas.—Strength of Materials. 27 plates and upward of 150 tables, 525 pages, 8vo, cloth;

In his preface to this valuable addition to engineering text-books, the author states that two special objects have been kept in view: First, that the rules and data shall be correct and trustworthy, and, second, that their application to practice shall be clearly under-stood. These objects have been attained, and the subjects of tensile, compressive, transverse and other strains to which bodies are subjected are clearly presented without difficult mathematical formulæ. Numerous tables, giving the strengths of different materials used in engineering works, add greatly to the value of the book.

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Notice is hereby given that by an order of the Chancellor of the State of New Jersey, made in this cause on the thirtieth day of August, A. D., 1884, the creditors of The Union Bolt Works, the defendant, are required to present to the subscriber, the receiver appointed in this cause, and prove before him under oath or affirmation or otherwise, as the receiver shall direct, to the satisfaction of the receiver shall direct, to the satisfaction of the receiver, their several claims and demands against the said defendant withinkwo monds from the benefit of such dividends as may be hereafter declared by the Court upon the proceeds of the effects of said corporation.

And in accordance with the aforesaid order, the creditors of the said coi poration are hereby notified and required to present their claims and demands aforesaid, under oath or affirmation, to the receiver at his office, No. 9, Liberty Street, New York City, or at the office of John W. Griggs, 110 Washington Street, Paterson, New Jersey, within the time limited by said order. Dated September 1st, 1884.

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Bargains in New and Second-hand Machinery.

Bargains in New and Second-hand Machinery.

One Corliss Beam Condensing Engine, 20 in. x 72 in. One Horizontal Corliss Engine, 14 in. x 20 in. New. One Horizontal Corliss Engine, 12 in. x 20 in. New. One Horizontal Engine, 12 in. x 16 in. New. One Horizontal Engine, 12 in. x 16 in. New. One Horizontal Engine, 12 in. x 24 in. One Horizontal Engine, 12 in. x 24 in. One Horizontal Engine, 13 in. x 24 in. One Horizontal Engine, 13 in. x 24 in. One Horizontal Engine, 8 in. x 16 in. New. One Horizontal Engine, 8 in. x 16 in. New. One Horizontal Engine, 8 in. x 16 in. New. One Horizontal Engine, 8 in. x 16 in. New. One Horizontal Engine, 8 in. x 16 in. Ames. One 10 Hz. N. Y. Safety Co. Supr. Engine and Boller. One Horizontal Engine, 8 in. x 12 in. One Horizontal Engine, 8 in. x 17 in. One Horizontal Engine, 8 in. x 18 in. One Horizontal Engine, 16 in. x 16 in. One Horizontal Engine, 17 in. x 18 in. One Engine Lathe, 18 in. x 18 in. New. One Engine Lathe, 18 in. x 18 in. New. One Engine Lathe, 18 in. x 18 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 18 in. x 16 in. New. One Engine Lathe, 19 in. x 4 ft. One Engine Lathe, 19 in. x 2 ft. One Engine La

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J. Gray's Machinery Depot, 37 Dey St., N. Y A Rare Chance for Foundrymen and Machinists.

The G. A. Kelly Manufacturing Co., 3½ miles west of Jefferson, Texas, on the M. & P. R.R., will be sold at a bargain, as the present owners (bankers and merchants) are inexperienced in this line of business, and have not the time to devote to operating same.

Without exception, it has the finest machinery for putting up Wagons, Plows, &c., by Steam in the South, and by an addition of patents any and all articles made of iron can be successfully made. A Furnace situated a mile from works, maxing Car Wheel and Foundry Iron second to none.

none.
Plows of this Company's make have a wide and
established reputation, with a good trade in
Arkansas, Louisiana and Texas.
There is belonging to Works 100 Acres of Land,
with sufficient Houses for accommodation of
employees. Situation healthy, with abundance
of pure water.

employees. Situation healthy, wi of pure water. Works unencumbered. Timber plentiful adjacent Works. For further information, address R. BALLAUF & CO..

General Managers.

Jefferson, Texas.

THE CLEVELAND

Storage Company,

Capital Stock, \$200,000.00.

We are prepared to receive PIG IRON, Blooms, Ingots, Muck-Bar, BAR and Sheet IRON, Car Wheels, Ralls, LUMBER, OME, &c., also every kind of merchandise, on storage. Warrants will be issued on all stock received, made transferable by indorsement and deliverable to the holder on demand. These warrants will furnish a convenient medium of transfer and delivery, and serve as collateral to parties wishing advances on their stock. We shall be glad to furnish full particulars as to the manner of transacting business, and invite correspondence or personal interview.

W. R. DRAKE, Sec.

W. R. DRAKE. Sec. Room 35, Merchants' National Bank Building.

For Sale.

In one of the most flourishing cities of the Guif States, a well-assorted, clean stock of Hardware, Stoves and Tinware. An old, well-established business at a good location, with a good run of trade. Stock will invoice \$18,000 to \$20,000. "SOUTHERN BUSINESS," Office of The Iron Age, 83 Reade st., New York.

For Sale.

The largest stock of New and Second-hand Engines, Bollers, and general Machinery in the West. Send for Catalogue. Hoisting Outfits for Coal Mining and other purposes a specialty.

WARREN SPRINGER, 195 to 219 South Canal St., Chicago.

For Sale.

DROPS and LIFTERS.

BEECHER & PECK, Lock Box 192, New Haven, Conn.

For Sale.

Two new, first-class engines; each back-geared, screw-cutting, rod-feed, power cross-feed, compound rost, full counter, friction pulleys, center rest, two face-plates, &c. One 16 foot x 36 inch, \$415.

E. CORNISH,
Manchester, N. H.

E. BISSELL & CO., Wholesale Hardware Auctioneers,

Sales held weekly for the trade. Consignment solicited. We refer to the leading manufacturers and importers.

Wanted-Partner,

either active or special, with \$25,000 to \$40,000, to join an established wholesale Hardware business in the West. A good opportunity for party desiring investment. Address

Office of The Iron Age, 83 Reade St., New York. AGENTS WANTED

To sell Aj x Boiler Feeder. 25 % discount. Ex-lusive territory given to good men. H. M. SCIFLE, 107 and 109 N. Third st., Philadelphia.

Trade Report.

British Iron and Metal Markets.

[Special Cable Dispatch to The Iron Age.] LONDON, WEDNESDAY, September 24, 1884.

Scotch Pig.—The market is a little firmer. We quote makers' brands as follows: Langloan, ""

Gartsherrie, ""

Summerlee, ""

Carnbroe, ""

Glengarnock, ""

Ardrossan.

Egilnton, ""

Shotts, ""

Lighten on the light of Checons in

Cleveland Pig — Is a little steadier. Quotations are unchanged. We quote as follows, f.o.b. shipping ports:

Lighterage from Ardrossan to Glasgow is 1/ 9

regular. We quote W. C. Hematites 44/6 @ 46/ for mixed lots, Nos. 1, 2 and 3, equal portions, f.o.b. shipping ports. Manufactured Iron.-The market is a little firmer. We quote nominally at works:

Sections are quoted at £4. 15 @ £4. 17/6, year's.

f.o.b. shipping ports. Copper.-The market is irregular We nuote Best Selected, £59 @ £60, and Chili to the mercantile agencies, number for the

Bars, £53. 15/@ £54. 5/. Tin-Is not so steady. We quote Straits Ingots, spot, £80. 15/@ £81. 5/, and futures,

£81/@£81. 10/. Tin Plates-Are irregular. We quote Tin Plates, 10x14, 1st qual. Charcoal...19/6 @ 21/6

" 2d " 18/6 @ 19/
" 1st " Coke.....17/6 @ 18/
" 2d " "15/ @ 15/6

Spelter.—The market is firmer. We quote Ordinary, at shipping ports, £14. 10/ @ £14. 12/6.

Lead .- The market is quiet. We quote Common English Pig, £10. 15/@ £11.

Freights.-Steam from Glasgow to New York, 2/6 @ 3/; Liverpool to New York, 5/; Liverpool to Philadelphia, 5/ @ 6/6, and London to New York, 7/6 @ 9/6.

Financial.

Office of The Iron Age, WEDNESDAY EVENING, September 24, 1884.

The general trade of the city shows a little more life since the advent of cooler weather, and in the speculative markets there is more animation. The improvement is most noticeable among dry-goods jobbers, who speak of much steadiness in the demand, with a good movement in progress, and they receive similar reports from interior markets. Large auction sales of flannels and other goods attract to the city buyers from a distance, many of whom make selections in various departments of merchandise. Cotton has developed further weakness, partly on account of declining prices abroad, and quotations in all leading markets are reduced. The new crop is moving quite freely.

The course of the Stock Exchange market during the week has been irregular and downward, with few exceptions. Unfavorable reports respecting railway earnings and threatened disruption of pool arrangements had a depressing effect. There was also a report that Vanderbilt was a free seller of The banks last week lost only \$149,675 in Lackawanna, 108 1; Northwestern, 80 1/2; 000. Lake Shore, 77%; Union Pacific, 49%; The money market shows little change, Omaha, 30%; Louisville, 26%; North 1234; Kansas and Texas, 1734; Louisville 7814; Ohio Central, 236; Oregon and Transcontinental, 1176; Pacific Mail, 5136; San Francisco, 191/2; St. Paul, 781/4; Omaha, 3014; Union Pacific, 50; Northern Pacific preferred, 42%; Reading, 24%.

United States bonds closed as follows:

	Bid.	Asked.
U. S. 8 per cents	10016	_
J S. 4348, 1891, coupon	11216	112%
J. S. 4s, 1907, coupon	12012	120%
J. S. Currency 6s, 1895	125	-
U. S. Currency 6s, 1896	197	-
J. S. Currency 6s, 1897	129	-
U. S. Currency 6s, 1898	181	-
J. S. Currency 0s, 1899	188	-

tic ports is quiet, excepting as the increas-ing receipts of cotton cause more stir in the The National Bank of New Jersey resumed ing receipts of cotton cause more stir in the country as a whole. In New York City the and was fully prepared for any run. decrease is 30 %; outside of New York, 41.6 %. In Boston the general situation is con sidered more promising than it was a week ago, but only a moderate business is expected this season. The movement of merchandise is more satisfactory in volume than little firmer. We quote nominally at works:

£ s. d. £ s. d.

Staff. Ord. Marked Bars... 7 10 0

" Medium " ... 6 0 0 6 10 0

" Common " ... 5 10 0

" Common Best... 6 15 0

" Medium ... 6 5 0 6 15 0

" Medium ... 6 5 0 6 15 0

" Medium ... 6 5 0 6 15 0

" Common Best... 6 15 0

" Medium ... 6 5 0 6 15 0

" Common Best... 6 15 0

" Common ... 6 0 0 ... 6 7 6

Sheets, 30 W. G. and under.

" Ordinary Best... 7 15 0 ... 8 5 0

" Common... 7 0 0 ... 7 10 0

Welsh Bars...... 4 17 6 ... 5 2 6

Steel Ralls—Are unchanged. Ordinary
Sections are quoted at £4. 15 (@ £4. 17/6, year's. in respect of prices. In Philadelphia there

The business failures throughout the country during the last seven days, as reported United States 195, and for Canada 23, or a total of 218, as compared with a total of 220 in the previous week. Included were Rindskopf, Bros. & Co., wholesale clothiers, this city, one of the largest houses in the trade, with reported liabilities about \$1,000,000, of which preferences were made for \$850,000, and receivers were appointed by Judge Donohue for the Bankers' and Merchants' Telegraph Company. Thos. Fawcett, a banker, of London, Ontario; also Buchanan & Co., whisky dealers in Louisville, are each reported failed for about \$1,000,000. The schedules of Joseph K. Wells & Co., wholesale dealers in coal, at No. 1 Broadway, show liabilities, \$235,902; nominal assets, \$116,

844; actual assets, \$91,326. The posted rates for bankers' sterling were advanced to \$4.83½ for 60-day and \$4.85½ for sight. The market is steady, and the increasing outward movement of cotton suggests the possibility of good imports not long

The imports of foreign merchandise at this port during the past week were lighter than usual, amounting to but \$7,100,195, of which \$4,700,209 was general merchandise and the remainder dry goods. Since January 1 the total is \$319,854,150, compared with \$339,398,995 for the corresponding period of

1883.

The value of exports from this port during the past week is fully equal to the general average, the total being \$7,068,417, against \$7,442,624 for the same week last year. There was a fair movement of breadstuffs, petroleum, cotton and provisions. Since January I the total is \$234,921,660, compared with \$261,696,204 for the corresponding period of 1883. According to the Custom House reports the imports of specie at this port for the week were \$49,297, and the exports for the same time were \$279,905, making the total of the former since January

Reading, which brought out considerable surplus reserve, and still hold \$28,154,700 in long stock. On Saturday and Monday there excess of legal requirements. A year ago was rather more strength, but on Tuesday | they had a surplus of only \$1,907,350, while Northwest and Northern Pacific gave way at the corresponding time in 1882 they were under a bear raid, affecting the whole list, deficient in the sum of \$2,271,825. The and a reported corner at Chicago in Septem- changes in the averages last week were unimber corn operated unfavorably, as such a portant, except in the case of deposits, which movement would be prejudicial to the export showed an increase of \$2,135,100. The movement. To day the market opened with banks hold \$23,167,600 more cash than at better prices, which was natural after this time last year, while their loans have been contracted over \$40,000,000 and their ous day. Quotations are as follows:

ern Pacific, 18, and Western Union, will be more apparent as soon as cotton 63½; Burlington and Quincy, 120¼; moves more freely. It is observed that the Canada Pacific, 43½; Lackawanna, 108; demand for money is much less than usual Delaware and Hudson Canal, 86½; Erie, at this late date in the season. Rates for money are without change, either on call or and Nashville, 27; Missouri Pacific, 901/2; for mercantile paper, but the banks in some New York, Lackawanna and Western, 861/2; instances discount with a closer scrutiny. Jersey Central, 49%; Northern Pacific, In Chicago and St. Louis the demand for money is very moderate. A verdict in favor of the receiver was rendered at Trenton, in the case of the People's Bank and Corn Exchange of Newark against Receiver Frelinghuysen. The suits were brought to recover deposits which the complainants had in the Mechanics' Bank, on the ground that they were special deposits. The court de-cided otherwise, and stated that "the com-

Firm of English merchants and manufacturers to the frequire, January 1, 1885, an agent in New York, to obtain orders for English Saddlery, Sheep Shears, Chains, General Bardware, &c. Payment by commission. Security and references required. Apply not should be supported by the commission. Security and references required. Apply of a brisk export movement under the were \$96,003,250, being \$18,334,226 less change in the market.

stimulus of low prices, speculators for a rise than for the corresponding period of the caused a temporary halt, but the market is previous year. There was an increase in as an occurrence without a precedent. As \$1,839,032. The exports of Indian corn were the new crop will be marketable a month less than in 1883 by 21,929,954 bushels, and hence, the effect upon farmers will be in value by \$15,238,233. The exports for watched with interest. For the first time in August, 1884, were valued at \$2,419,746 less the history of lake navigation a cargo of corn | than those for August, 1883, and at \$4,401,has been shipped from Chicago to Buffalo at 081 more than for July, 1884. According to 11/2 P bushel. Grain freights from New the same authority the total value of beef, York for British ports are inclined to stiffen. pork and dairy products, exclusive of live Advices from leading commercial points cattle and hogs, reported in August, 1884, fail to indicate much activity anywhere, although cooler weather has operated as a stimulus in some departments, and in the articles for the eight months ended August Southwest the fall trade appears to be com- 31, 1884, were valued at \$62,644.176, which ing up very well. Business at all the Atlan- was \$17,344,133 less than the value of such

South. Clearing-house returns from all the business this morning, with Lewis T. Howell principal cities of the United States show a as president, and Edward S. Campbell, decrease in the volume of business equal to cashier. One of the directors said that the 26 %, compared with last year, taking the institution had a cash balance of \$500,000,

Metal Market.

Copper-Has been dealt in in a small vay only; Lake Superior at 13¢ @ 13¼¢, and other brands at 12¢ @ 121/2¢. Many in the trade seem of opinion that bottom has been touched here and in Europe, and that prices may be seen, at least for a while. Import into Liverpool and Swansea during the first eight months from this country, 9724 equal to £52. /10, which is very low. At these low prices Chili can hardly go on producing as heretofore. Best Selected came this morning £59. Manufactures may be nominally quoted as under: Bottoms, 20¢; Braziers, 20¢; Sheating, 18¢, and Bolt Copper, 20¢. This afternoon we received from London the ensuing cablegram: "Market irregular. Best Selected, £59 @ £60, and Chili Bars, £53. 15/ @ £54. 5/." Tin.-Although the statistical position is

fair, Tin is not strong either in London or here, owing to general dullness in trade more than anything else. London gave way this morning to £80. 17/6, spot, with Straits Tin, and to £81, three months', while Singapore cabled last night £82. 10/, cost and reignt per steamer to New York. The visible supply in Europe and America, 1st instant, was only 13,510 tons, against 15,735 last year and 14.729 in 1882; the price was £82, and 14,729 in 1852; the price was £62, against £94. 12/ and £107. In spite of all this the impression on this side is that Tin will go lower. We quote Straits to-day, spot, on a moderately active market, 18¢ @ 18½¢. Messrs. W. T. Sargant & Son, London write, under date of September 5: "Market movements have again been on a very small scale, the variations in value of spot Tin being between £81. 5/ and £83. 10/. The closing value is £82. 15/. Deliveries for consumption have been very good, and the European total for the eight months shows an increase of 860 tons over last year. Straits shipments show no increase, while the Australian deficit has risen to 1250 tons. Had the American trade answered the expectations that were held about it in the beginning of the year, the statistics would have shown a position that would have struck the most apathetic consumer with concern; as it is, the present position is the most favorable that has existed for bull operations for many years, whether we look at the moderate price or the small total of reserve supply. Notwithstanding a steady and long-continued excess standing a steady and long-continued excess of consumption over supply, the trade seems convinced that future supplies will be ample for future needs. While concurring gencause, although speculation is now dor-mant, we do not believe it will remain so, in the favorable position now arisen." We receive from London the following cable trade, and there is little Tin here. We @ \$5.60; do. Ternes, \$4.70 @ \$5; Coke Tin, \$4.75 @ \$4.85, and do. Ternes, \$4.45

advance, chiming in with the active season, @ \$3.85, an offer of \$3.75 having been declined. At St. Louis 300 tons Common sold at \$3.60, and Corroding is held there at \$3.65. Pipe, 5 1/4 18 th : Sheet Lead, 6 1/4; Tin-lined

Spelter and Zinc .- Common Domestic caused a temporary halt, but the market is now weak again at a fraction above the lowest point. Corn speculation has forced prices in Chicago to a point decidedly higher than the price of wheat, which is spoken of the export of 1884 was less than in 1883 by the spoken of the spoken 51/2¢ @ 53/¢, Domestic, but with a replenished supply is likely to go off to 5 3/8 ¢ @ 5 1/4 ¢ next week. We are cabled from London that the market is firmer, with Ordinary at shipping ports quoted at £14. 10/@ £14. 12/6.

Antimony-Very little has transpired in this metal. We quote Hallett, 101/6¢, and Cookson, 10 1/2 ¢.

Metal Exchange.

We are reported the following sales as having occurred on the floor of the Exchange since those mentioned in our last issue

COO CONTRACTOR	ALS O'GA AGROU TOO'GAO !
WEDNESDAY,	September 17,
Nov	\$0.181
40 40	
	eptember 22.
TUESDAY, Se	ptember 28.
	WEDNESDAY, S Tin, Sept Nov THURSDAY, S Tin, Nov 44 45 46 46 47

Coal.

There is a fair demand for Anthracite Coal of the ordinary sizes, but in Steam Coals with a revival in trade on both sides better with a revival in trade on both sides better brices may be seen. at least for a while. Imare considerably off from the circular, and may be quoted for Steam, Broken and Egg, tons of Fine Copper, against 5314 tons last \$3.90 @ \$4, alongside in New York; the year, and 460 in 1882. Chili Bars were cabled from London this morning £53. 17/6; down as \$4 @ \$3.75—the latter of inferior they sold at Valparaiso this summer at figures grades. Bituminous Coal is slow at \$3,25 @ \$3.50 for Clearfield and Cumberland, and "wild-cat" or outside Coals have sold as low as \$3 for the cheaper qualities. The deliveries this year to date amount to 3,786,000 tons, which is an excess of 330,000 tons compared with last year.

The total amount of Anthracite mined thus far in the year 1884 is 19,581,600 tons, compared with 21,125,794 tons for the same period last year, a decrease of 1.544,104 tons. The reported new Coal combination is a

myth, and the alleged intention of returning to the old allotment or percentage plan has not been even under discussion.

Old Metals, Rags, &c.

The purchasing prices offered by dealers are as follows:

	Copper, heavy Pfb,	\$.08	0	.08
	Copper Bottoms	.08	2	.08
U	Yellow Metal	.07	6	
	Brass, heavy	.0616	面	.07
ч	" light "	.06	0	
	Composition, heavy 14	.08	6	
	Lead, heavy 44	.09%	6	
	Tea Lead "	.0212	0	
d	Zinc **	.0932	0	,099
	Pewter, No. 1 "	.19	6	
1	" No. 9 "	.08	a.	****
ı	Wrought Iron w ton.	18.00	66	
	Light "	10.00	6	****
	Stove Plate Iron	10.00	0	10.50
.	Machinery "	13.00	62	
1	Grate Bars "	4.00	63	
٠	Stereotype Plates B D.	.04	0	
d	Electrotype " "	.0814	6	
	Small Type "	.05	0	,053
п				

The prices current (prices paid by local dealers) for Rags, &c., are as follows:

Carren or 10)	202	2.000	D-3		-	. 9	**	-	-		LOME		
Canvas,	Lane	n					0.0				PD,	314 @ 4	*
6.6	Cot	ton.									64	812 64	e
66	-	No.	2.								4.6	212 6 24	
White N	0. 1											4 62 414	e
	0. 2.										66	2 @ 28	é
Seconds .											96	16 @ 1	é
Soft Woo	olene							0 1			60	4 @ 414	0
Mixed Ra	. ROLL										64	116 @ 14	e
Gunny B												134 @ 134	c
Jute But											4.6	116 @ 13	e
Kentuck	r Ba	ggir	w.								6.6	214 @ 214	ě.
Book Sto	ck						 				**	116 @ 134	e
Newspan	ers.						 				6.6	1 @	0
Waste Pa	per	and	Sc	ra	Di	L .				0.0	6.6	36 @	
Kentuck												812 6 4	d

erally with this view, we are extremely yesterday afternoon, says the New York doubtful as to the course of prices, bemaker, the submarine torpedo boat designed by Prof. J. H. L. Tuck. The boat is 30 feet long, is built of iron, and is run by electricity. Professor Tuck has been 22 years perfecting it, and the Peacemaker cost \$16,000 to build message to-day: "Market not so steady.

Straits, spot, £80. 15/@ £81. 5/, and futures, £81@ 81. 10/." Tin Plates—Have been weaker when they should be higher, for we are now right in the fall trade, and there is little Tin here. We trade, and there is little Tin here. We quote at the close, large lines, ordinary brands, \$\frac{1}{6}\$ box: Charcoal Bright, \$5.12\frac{1}{2}\$ (@ \$5.60; do. Ternes, \$4.75 (@ \$5; Coke Tin, \$4.75 (@ \$4.85, and do. Ternes, \$4.45) Tin, \$4.75 @ \$4.55, and do. Ternes, \$4.45
@ \$4.50. Liverpool is flat at 15/@ 15/30/, the air pumps. Water, of course, cannot @ \$4.50. Liverpool is flat at 15/@ 15/30/, and Charcoal at 16/@ 18/. From London, we are told that the market is irregular, with a slightly lower price for Coke 2ds.

Lead.—There sold during the week 300 tons Common Domestic at \$3.60 @ \$3.65, and 700 tons do. at \$3.75, which is the closured with the interior. The captain signals the electrician to manage the boat and to discharge the torpedoes. The torpedoes, consisting of dynamite, are made buoyant with cork. The boat, driven by electricity from storage batteries, runs up order a yearsol. The captain releases the ing figure, with an upward tendency. This under a vessel. The captain releases the advance, chiming in with the active season, torpedoes, two in number, one on either side appears justified. Refined is held at \$3.80 of the keel, and, being supplied with electric of the keel, and, being supplied with electric magnets, they cling to the bottom of the ship. Then the boat runs off and at a safe distance explodes the torpedoes. Professor Tuck says the torpedoes can be attached to a At Chicago 300 tons Common sold at \$3.62 1/2. vessel which is going at the rate of 10 knots an hour.

Trade Report.

Philadelphia.

Office of The Iron Age, 230 South Fourth St., | PHILADELPHIA, September 23, 1864. | Pig Iron.—The past week has not confirmed the hopes of improvement which were expressed some days ago, although it cannot be said that prices are any lower. On the contrary, the market has been fairly steady, but there is less activity and less inquiry, with some indication that for the present the requirements of consumers have been pretty well satisfied. In any case, there seems to be something of a falling off in the demand, means large, sellers are showing renewed is quite evident that if prices are mainfor anything beyond that. This is a severe disappointment to those who have cases to a prompt curtailment in production. Heavy losses must have been made on large lots sold within the past six or eight weeks, and it is certain that business cannot be carried on in that way for any length of time. Hence the blowing out of furnaces here and there, while others who have been quoting low prices have withdrawn from the market entirely. Nominal prices for standard brands are \$10.50 @ \$20 for No. 1 Foundry and \$17 @ \$17.50 for Gray Forge, but very large quantities have been picked up at less money, so that it difficult matter to find a market at quoted rates. A limited amount of business can be done, of course (and the supply of good Iron is not large), but buyers respond very reluctantly, and those who can take 100-ton lots and upward seem to expect concessions every time. Foundry Irons are steadier than other descriptions, but there is no demand for large lots, so that increasing depression would quickly follow a few days of dullness. In special cases quotations of \$19 have been made, but \$19 50 @ \$20 for No. I Foundry are the usual rates for tidewater deliveries, and from that to \$21 for a few choice brands. Mill Irons are more irregular, owing to the difference in quality, and sometimes because of the large lots that are taken in a line. Ordinarily \$17 @ \$17.50 is quoted for standard brands, but good Irons are said to have been bought at \$16.50, and others with more or less cinder mixture at \$15.50 @ \$16. Nevertheless, there is reason to believe that there is less oppor tunity for securing low-priced Irons than there was some time ago, and, while the general market is extremely dull, it is not unlikely that the average prices realized on current transactions are something better than on those during the earlier portion of

Foreign Iron.-There is very little doing, and prices are almost nominal at \$19 @ \$19.50 for shipments of Bessemer and \$20.50 @ \$21 for special brands. Spiegeleisen sold at \$26.50 for 20 % and \$22.50 for 10 to 12 %, in 1000-ton lots, with further inquiry for 1000-ton lots of 30 %, which seems likely to result in business.

Muck Bars,-There is no special change, the demand being chiefly for small lots, at prices varying from \$29 to \$29.50, according to quality and location of mill.

Blooms.-Demand very slow and prices irregular at the following figures asked: Charcoal Blooms at \$52 @ \$53; Run-out Anthracite, \$43; Scrap Blooms, \$40; Northern Ore Blooms, \$38.

Bar Iron,-The market remains in an exceedingly depressed condition, and the demand is for the smallest kind of lots. Manufacturers begin to lose all hopes of improvement this season, and are settling that there will be a sharp competition before down to what may almost be termed a retail business. There is no demand whatever for will be materially reduced. Already we lots of any size, so that there are no orders hear that some of these companies are offerto work on except such as come in from day ing to supply large consumers, like rolling to day. These may be continued or may mills and blast furnaces, at a price below not, but the uncertainty is very discouraging.

marks apply to this department as to the the gas wells will not hold out, but there is once in a while, and the mills have been able at Leechburg have been in full blast for to keep two or three weeks' work before years and are still flowing as steadily as them during the greater portion of the year, ever. There is reason to believe that within but it is harder to do so now than at any the next year or so nearly all our manufactime during the past six months. They are, turers will be using the gas in question for with but few exceptions, running close to the fuel at Pittsburgh. end of their orders, so that there is increasthe asking rates being as follows: Plate Iron, 2.1¢; Tank, 2.15¢ @ 2.25¢; Shell, Cleveland in particular, are large and in-2.75¢; Flange, 3.75¢; Fire-Box, 4.25¢.

Structural Iron. - The market is exceedingly quiet, no new orders having been on ment the past week, and the prospect conthe market for some time past, except for tinues just about as discouraging as ever. trifling quantities. Some of the mills have But a small portion of the puddling capacity work enough to run them all next month, is employed, most of the furnaces being but in the majority of cases a week or 10 worked single time, and some are standing days would enable them to finish everything idle. However, there is but little pressure close up. The feeling is anything but cheer to sell; producers generally are just about as their ovens. The syndicate price for blast than a week ago. More of this Iron has ful, as there is nothing in sight likely to improve things in the near future. Meanwhile are about buying. Now and again a furton, delivered free on cars at ovens. Manuthan last, but with the cessation of that the market is unsettled and weak at the fol- naceman will be found whose necessities facturers say there is no profit at present demand business has been on the decline. September 20, 1884: Pig Lead,—The only lowing prices asked: 2.1¢ for Angles, 2.25¢ compel him to sell at the best price obtaina- prices.

for Bridge Plate, 2.75¢ for T's and 3.5¢ for Beams and Channels, subject to the usual discount on large lots.

Sheet Iron.-A fair demand is reported, and at somewhat more uniform prices than before. The best makes are steadily held at quoted rates, but there is more or less shading on inferior quantities, which appear to be in large supply. Prices for standard number of the banks and insurance compaqualities are about as before, viz.:

	quantities are about as betore, vin.
	Best Refined, Nos. 26, 27 and 29
	Best Refined, Nos. 18 to 25 81/2
	Common, say less than the above.
	Best Bloom Sheets, Nos. 26 to 28 614
	Best Bloom Sheets, Nos. 22 to 25 6
	Best Bloom Sheets, Nos. 16 to 21 594
	Common Red Plates, 3-16 to 16
	Blue Annealed
	Best Bloom, Galvanized, discount 50;
	Second quality, discount 521/2:
ı	Common, discount 5734
1	

Wronght-Iron Pipe .- There is very lit and, while the supply of good Irons is by no the change in this branch. The demand is light and prices remain in the same demoralanxiety to secure business, so that it ized condition noted last week. It is im possible to name definite figures, but the tained there is no immediate prospect range of prices is lower. Buyers take small lots only for immediate requirements, and expect to do better each time they enbeen holding on from week to week in the hope of better prices, and will lead in some any quotation would be uncertain and unreany quotation would be uncertain and unreliable

> Steel Rails -There is a pretty good inquiry, notwithstanding the recent heavy transactions, and several large orders are still under negotiation. Prices are firm, but not higher, \$27 @ \$27.50 at mill being the the whole, the position has been fully maintained, if not slightly improved.

> Steel Blooms .- There is a fair demand for small lots of Foreign at \$36.50 @ \$37.50 at tide, according to analysis. Domestic Slabs, \$37 @ \$38, delivered.

Crops Ends .- There is no inquiry at resent, although bids of \$20 50 are solicited for 1000-ton lots of West of England makes.

Old Rails.-The market is feverish and irregular, with a considerable disparity in the views of buyers and sellers. At interior points lots along the line of road are taken at from \$18 to \$18.50, but for seaboard lots buyers are not inclined to bid over \$17.50 for T's and \$20.50 for Bridge Rails, with sellers at about \$1 more.

Scrap Iron-Continues fairly active, but no large lots are moving. Best quality Domestic No. 1 is held at from \$19.50 to \$20.50; less desirable lots at varying prices, according to selection, &c. Foreign, in cargo lots, at \$18.50 @ \$19; Wrought Turnings, \$15 @ \$16; Machinery Scrap, \$15 @ \$16, and Cast Turnings, \$10 @ \$11.

Nails -There is a fair demand for small lots, principally from jebbers and retailers whose stocks are light and in constant need of replenishment. No large lots are selling, and prices show no change; \$2.10 @ \$2.20 is the general price, with a majority of sales at the lower figure. Carload lots of Steel Nails are offered at \$2.20, and are moving more freely, but in small lots.

Pittsburgh.

Office of The Iron Age, 77 Fourth Avenue,

There has been very little change in the general Iron situation during the past week; dullness still prevails. Orders continue to come forward very sparingly, and, what is still worse, prices are irregular and unre-The volume of business is exeedingly light for the season; a large proportion both of the furnace and mill capacity is unemployed, the effect of which is felt seriously in other branches of trade, including Coke, Coal, Limestone, &c., and, as a natural consequence, there is a great deal of unemployed labor. The indications at present point to a hard winter in the mill and mining districts. The increasing number of natural-gas companies leads to the belief long, and, if so, that the cost of the article Prices are more or less nominal, with 1.85¢ is claimed that the price of natural gas could be reduced considerably and still afford a 1.65¢ @ 1.75¢ for Common and Medium. that of Coal, no matter what that may be. It Plate and Tank Iron.—The same re. hension is entertained in some quarters that A few good-sized lots are taken no good reason for apprehension. The wells

Iron Ore.—There is no improvement in ing anxiety for business, and, as usual in the market, nor is there likely to be for some such cases, a good deal of demoralization in time to come; consumption continues to fall prices. Nominally quotations are as before, off, as the number of idle furnaces is steadily but on large lots more or less shading is done, being increased, and the outlook is exceed-Yingly discouraging. Stocks at Lake ports, / creasing.

Pig Iren.-There has been no improve-

ble, as it is his only resource to raise money; but, fortunately, there are few in that condition in this section of the country. The supply in the hands of consumers is light, and the same is true of many of the furnaces, yet it is very evident to those who are at all familiar with the trade that the supply is considerably in excess of present wants. A

take it in order to secure themselves, and this, or at least a large portion, will be placed n the market whenever there is a chance to sell, and until the stock thus held is disposed of there will not be much improvement. Prices are substantially as noted a week ago,

Neutral Mill.
All-Ore Mill
White and Nottled.
Slivery Iron.
No. 1 Foundry.
No. 2 Foundry.
Cold-Blast, Charcoal.
Warm-Blast Charcoal Bessemer Iron.

Muck Bar .- There have been no sales reported recently, in the absence of which we continue to quote at \$29 @ \$30, cash good makes can be bought at \$29, cash, and possibly for less,

Manufactured Iron. - Manufacturers generally continue to report the situation unchanged; orders are few and far between, while prices are irregular and unsatisfactory Prices are still quoted on a basis of 1.65¢ @ 1.75¢ for Bars—that is, for first-class stock usual quotations, according to quantity, time No. 24 Sheet, 2.85¢ @ 2.9¢; Plate, 2.25¢ of delivery, &c A fair amount of business @ 2.3¢, 60 days; Skelp Iron is still quoted has been entered during the week, and, on at 1.75¢ @ 1.85¢. Mill owners claim that it costs more to make Skelp than Bars, yet orders for the former are generally for good-sized lots, from 100 to 500 tons, whereas orders for Bars are mostly small and a good deal mixed. But very few of the mills are working full; some of them are idle.

Nails.-There has been no improvement in demand during the past week; orders generally are small, and it is evident that neither jobbers nor consumers will care to anticipate future wants until more fully assured that hard pan has been reached. It is claimed by those who are in a position to know that the market is in a worse tion now than for several years; that, while prices are not yet quite so low, the cost of production is greater. Some manufacturers still quote at \$2.10, 60 days, 2 % off for cash, in car lots, but it is admitted that others are taking orders at \$2, same terms.

Wrought-Iron Pipe.-There is a fair degree of activity; some of the Pipe mills are running full, but prices are unsatisfastory, the result of an active competition. Prices remain as last quoted. Discount on Black Butt-Welded Pipe, 40 %; on Galvanized do., 30 %; on Black Lap-Welded Pipe, 60 \$; Galvanized do., 45 \$; discounts on Boiler Tubes, all the way from 521/2 to 60 %, according to size and character of order; 2-inch Oil-Well Tubing, 12¢ ? foet, net; 5%-inch casing, 40¢ \$ foot, net. Some of the Pipe manufacturers have reissued the list in use prior to the one prepared by the combination; the combination list, it appears, was very unsatisfactory to many jobbers, and possibly had considerable to do with the collapse of the combination

Steel .- There is a fair degree of activity but prices are irregular and unsatisfactory, particularly as regards the lower grades. is evident, however, that Steel is gradually, but steadily, taking the place of Iron. The latest feature is the Steel Nail, which promises to be the Nail of the future. Best brands Refined Cast Steel, 91/4 @ 104 do. Crucible Machinery, 5¢ @ 5½¢; Open-Hearth and Bessemer do., 2¾ @ 3¢. Steel Slabs for making Steel Nails are looming up, and promise to be quite a feature in the Steel has almost wholly supplanted Iron for Boiler Plate.

Steel Rails.-A firmer feeling appears to obtain, and the opinion gains ground that the lowest price has certainly been reached. We continue to quote, in the absence of to character of order, delivery, &c.

Old Iron Ralls-Continue very dull and pressure to sell. Prices are weak. We can report a sale of 500 tons at \$19.50, and more are offered at the same figure.

Railway Track Supplies-Continue exceedingly dull, with but little prospect of improvement this side of next spring. Prices are nominally unchanged. The combination price for Spikes is 2.35¢, 30 days, but they can be bought for considerably less. Splice Bars, 1.65¢ @ 1.75¢; Track Bolts, 21/20 @ 23/40.

Crop Ends. - American are still quoted at \$18 @ \$18.25. The last sale of Foreign reported was at \$23.50, delivered in Pittsburgh.

Scrap.-No. 1 Wrought Scrap is still quoted at \$18 @ \$19 7 net ton, the outside @ \$15; Old Car Axles, \$25 @ \$27; Cast Borings, \$12 @ \$12.50, gross; Old Car Wheels, \$16.50 @ \$17, gross ton.

20 \$; Double Strength, 70 and 10 \$.

Coke.—Some of the Eastern Pennsylvania furnace owners are insisting on lower prices, but producers say that rather than make any further concession they will blow out all Iron is steady, and demand somewhat less ton, delivered free on cars at ovens. Manu- than last, but with the cessation of that

Chicago.

Office of The Iron Age, 36 and 38 Clark St., Cor. Lake St., Chicago, September 22, 1884.

Hardware.-The position of the Hardvare market is very much the same as a week ago. Business has reached the point where jobbers are pressed to keep pace with their orders. Buying is kept within the limit of present consumption, and there is every son to believe that the demand for goods so far is a fair criterion of the next two or three months' trade. In appearance there has been less business in some of the jobbing houses compared with a week ago, because the number of callers has very much diminished. Orders, however, from their traveling men have been proportionately increased There is one feature which will largely con trol business yet to come. It is the prices which farmers will be able to obtain for their crops. There has been an abundant harvest it is true, but prices for all kinds of grain are exceedingly low, and there are many among the agricultural class who are unwilling to sell at prevailing figures more than what will be actually necessary to sustain their families. Unless they can get a fair price for their product the amount of money they will have to invest in improvements will be limited, and thus affect the volume of business accordingly. The market for General Hardware is reported steady, and no material change in prices except for Tin Plate and Zing goods, which are weaker.

Warb Wire -The market does not prent anything new or of much importance. Trade is pretty good-in fact, much bette than a month ago-but not what might be expected when the price at which Wire is selling is considered. Some buying for storage is reported, though the majority of sales are made for consumption. Barb Wire at present figures is considered a good stock to carry, but there are few men who have the courage to back their opinion in more than carload lots. For lots of this size 41/¢ is quoted for Galvanized, and 5 1/4 for Painted. Inside information says that these figures can be discounted, but to what extent cannot be learned.

Nails.-The Nail market is weak and uncertain. The past week opened with Nails pretty steady at \$2.20 carload lots, but before it was half through that price was made in a small jobbing way, and carload lots had dropped to \$2.15, 2 \$, 60 days, and are now quoted weak at that figure by some of the dealers, while others assert that they have not sold Nails for less than \$2.20 in car lots. While Pittsburgh and Wheeling makers are contending for \$2 at mill, parties outside of their domain have sold between 5000 and Chicago. The dismay brought about by these 'deals' can be easily understood, and any attempt to bolster up prices against such slashing is an utterly hopeless task. The Steel-Nail men are working still further con sternation in the market by selling their Nails in small lots of 5 to 10 kegs at the same figures that Iron Nails are selling for, and shipping them to every cross-road store in the country. They say this is "to intro-duce the Nail," and when the Nail is introduced there is little doubt that the battle be tween Iron and Steel will be the merit of the article, and not the price.

American Pig Iron.—The market durng the week has been fairly active and rong. During the week one concern placed 000 tons No. I Lake Superior Charcoal in torace in this city, with instructions to hold the Iron until \$23, cash, could be realized on t. Several other furnaces in the district hat could be named are asking \$21, cash, which has been accepted heretofore on four onths' time. These same furnaces, with any others who make Coke Iron, are unwilling to take contracts of any kind which extend beyond January 1st next. Through the blowing out of the Citico Furnace, last week, there is withdrawn We continue to quote, in the absence of sales, at \$27 @ \$28, cash, at mill, according which was principally marketed here. The Old Iron Kalls—Continue very dull and with a light demand and considerable of a furnaces is having a good effect upon the market, and prices are more regular and demand better than it was several weeks ago. Nearly all of the large manufacturers who contract at this season have made their arrangements, and trade consists largely of the 200 to 300 ton buyers and carload orders. Of these there are quite enough to absorb all the surplus stock not taken up on contract from furnaces in the market. At present writing supply is perhaps a trifle less than demand on L. S. C. Irons, not counting those furnaces who are piling up their Iron to wait for higher figures. A number of odd lots that were this time. on the market some time ago have been cleared out, and it now looks as though everything to be had must come from legitimate sources. We quote as follows for carfigure for Selected; Wrought Turnings, \$14 load lots, four months, except Southern No. 2, which is cash: Lake Superior Charcoal, Nos. 1, 2 and 3, at \$21 @ \$21.50; Nos. 4, 5 and 6 at \$22; Lake Superior Coke at \$20; Window Glass.—Trade continues quiet Lake Superior and Ohio, mixed, at \$20 @ \$21; for the season, while prices remain un- Ohio Standard Black Band, No. 1, at \$21.; changed; Single Strength, in car lots, 60 and Southern, No. 1, at \$18; No. 2 at \$17; Silvery Soft at \$17.50 @ \$19 50; Anthracite, No. 1, at \$21, and No. 2 at \$20; Brier Hill Bessemer Pig, \$21.50.

Scotch Iron.—The market for imported There is no change in prices, which are noticeable change in the position of Pig Lead

quoted as follows: Summeriee, \$25.50, cash, from yard, and \$24.50 to arrive; Glengarnock, \$25.50 from yard, and \$24 to arrive.

Merchant Steel .- The Steel market is ery unsatisfactory. A great deal of underhand work on the part of makers is reported, and some startling cuts will probably be brought to light before another week ends. Rumor has it that one mill has disposed of all its product for a time at prices nuch less than any that have heretofore been made. Tool Steels are sold from store at 81/2¢ as an open price on some brands, but the better class is not included, they say. Where the line is drawn it is hard to determine. For Refined grades from store we make the following quotations:

	Pe	r po	ound.	
Best Refined Cast Tool Steel	9	0	10¢	1
Crucible Cast Machinery Steel		0	634#	l
Open-Hearth and Bessemer Steel	8	0	33-60	
Open-Hearth Spring Steel	814	0	316¢	
Toe-Calk Steel			316¢	l
Fire-Box and Boiler Steel			514¢	ł
Syndicate Steel	7	0	7360	١
Or			1	7

Steel Rails.-There is very little demand for Steel Rails for present delivery. There have been several 2000 or 3000 ton sales made during the week, but credited on previous contracts, which are said to be at a ess price than mills are now asking. For such inquiries as are on the market they are asking \$30, cash, at mill. The Chicago branch of the North Chicago Rolling Mill Company have shut down, and several other makers are reported short of work, but not antious to accept orders at prevailing

Old Rails .- We learn of sales of about 5000 tons at \$18.50, which is a fair quotation for small lots. Buyers do not care to carry a large stock, and where a block of 10,000 to 20,000 tons is offered, \$17.50 would be top price. The market is a shade better on small lots, but no change for heavy transactions in favor of sellers.

Structural Iron.-The market for Structural Iron has been tolerably fair for store stock, and several of the mills report sales of specials to be delivered during next month. Most of the makers express themselves as having had a fair summer's business, but less than was expected at the out-We continue fo'lowing quotations, with 1/4 @ 1/4 added for delivery from stock: Beams, \$3.60; Channels, \$3.60; T Iron, \$3; Angle Iron, \$2.50; Flitch Plates, \$2.50 : Frieze Plates, \$2.70.

Bar Iron.-The market is reported with out change for the week. A fairly active demand continues, but in smaller quantities than for several weeks past. Most of the heavy buying has been done. Best Relined New Puddled Iron is quoted at \$1.85 @ 6000 kegs at \$2, 2 %, 60 days, delivered in \$1.90 from store. Demand for Common Iron was very fair, and one concern is said to have sold a large lot at \$1.50, mill rates, which is about 5¢ less than anything previously reported. There is a wide range in. prices, and mills are sometimes compelled to accept the best price that can be had. From store \$1.70 @ \$1.80 is quoted.

Norway Bars .- Market steady, and demand, if anything, a trifle better than the week previous. The price quoted to Merchant trade is \$3.75, and to consumers, 4¢

Galvanized Iron.-There is nothing of importance in Galvanized Iron for the week. Jobbers report a good trade for the season, stocks in fair condition and prices without change, as follows: Juniata, 521/2 % off; Charcoal, 55 % off, and Refined, 57 1/2 % off.

Black Sheets.-The local market in Black Sheets for consumption is fairly good in small lots, which can be had from jobbers at prices that discount those offered to larger buyers. Mills are having a brisk trade from Stove-pipe and Elbow makers; the jobbing trade in different parts of the country are also placing orders for good-sized stocks. The stock in the hands of our jobbers is light, and some misgivings are manifested as to what October stock will cost them. Mills are not inclined to make concessions, and, if ices asked must be paid addition to what they have taken, the business promises a poor investment. It is said that mills have offered to deliver Sheets to jobbers in Chicago at \$2.90 for No. 27, but even these figures were not acceptable. We make the following quotations as a retail price asked, though we know that Sheets can be bought for less in small lots: Nos. 10 to 14 at \$2.60 @ \$2.70; No. 24 at \$3; Nos. 25 and 26 at \$3.10 and No. 27 at \$3.20.

Old Wheels .- The market is sluggish, and no transactions are brought to notice. Foundries are quoting \$17, but those who have the stock will not accept the price at

Scrap Iron.-The demand for Scrap has been very quiet during the week. The market is weak, and any effort to force stock would be the means of reducing the price. Mills quote \$15.50 @ \$17 for No. 1, and \$11 @ \$12 for No. 2, Chicago or Milwaukee delivery. We make the following quotations as dealers' purchasing prices : No. 1 Wrought Scrap, P net ton, \$15; Cast Scrap, P net ton, \$12; No. 1 Stove-Plate Scrap, & net ton, \$8; Wrought Turnings, \$8 ton, \$8; Cast-Iron Borings, \$6; Old Plow Steel, \$9; Tool Steel, \$\mathbb{H}\ ton, \$15; Locomotive Steel Tire, \$P net ton, \$13; Buggy Springs, P net ton, \$14.50; Malleable Scrap, \$5.

EVERETT & Post, 156 Lake street, Chicago, report to us as follows, under date of

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is an improvement in the inquiry, especially prices far ahead, nor sell any large lots at current prices. The present demand is from hand to mouth only, and at 334\$\psi @ 3.4\$\psi\$.

Chicago. Reports from the far West show a large output of Ore and Bullion, but so far the production will run behind 1883, and there are no stocks of Lead in hands of refiners or their agents (except in a few instances). We look for a fair trade, but only of a jobbing nature.

Chattanooga.

Office of The Iron Age, Carter and Ninth Sts., Chattanooga.

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Office of The Iron Age, Carter and Ninth Sts., Chattanooga.

Office of The Iron Age, Carter for Corroding Lead. Manufacturers both

The very hot weather seems to have permanently disappeared from this region. It has been succeeded by sunny, but not hot, days and cool, bracing nights Business, under the influence of more favorable weather, shows more life, but the movement is dull for this season of the year. The fine wheat crop keeps out Chicago importations, and buyers fix their own prices, with the less inquiry for the heavy. Still, the content of the permanent of the per and buyers fix their own prices, with the less inquiry for the heavy. Still, the conresult of keeping their grain in the hands of sumption of neither is anything to brag on, all farmers who can hold on. The force at Dayton has been increased to 500, and construction is being pushed to take all possible advantage of the fine weather. Streams are very low, and little heavy business is doing by boats.

making an average of 90 tons per day, chiefly No. 1 Foundry, and has enough Iron on hand to cover orders out for three months. One of the largest stacks at Birmingham also went out. These stoppages tend to make Foundry Irons scarce. Reports of inquiries for Foundry grades at a small advance are current. Cash payments are generally insisted on by holders, time buyers being regarded as speculators or unsafe. Furnace owners propose to have the benefit of any rise that comes. We quote sales of low-grade Mill at \$12.50; good Mill, \$13.50; \$46 and 48 South Charles \$14; Nos. 2 and 1 Foundry, \$15 @ \$16. There is a better inquiry for Charcoal Foundry grades at \$18 @ \$19. These prices with values remaining about the same as last accounted. low-grade Mill at \$12.50; good Mill, \$13 @ small lots, 60 days: No. 1 Foundry, \$17 @ reported: \$18; No. 2 Foundry, \$16.50; Gray Forge, \$14 @ \$15; White and Mottled, \$13 @ \$14; Car-Wheel Metal, \$22 @ \$24.

Ores.-We quote Fossiliferous Ores, averaging about 50 % Metallic Iron, \$1.50 \$1 ton, delivered at river landings; higher qualities \$2. Brown Hematite, \$2 @ \$2.25 on cars at

Miscellaneous Articles.-We note a sale of 1300 tons of Old Rails for mill use at \$16. We quote: Wrought Scrap at \$14 for No, 1; Old Wheels, \$16, nominal; Cotton-Tie Clippings, \$10. Inquiry for this list has slightly improved.

orted bills; Spikes, \$2.25; Bolts, \$2.50 @ \$2.75; Splices, \$1.70.

Nalls-Are in fair demand at \$2 @ \$2.15 for carloads; about \$2.25 from stores. Barb Wire.-Cambria Link and Four-

Point, Galvanized, 6¢ 78 fb. Coal.-We quote Fancy Lump at \$3; Common Lump, \$2; Egg, \$2.25, delivered. Run of mine to manufacturers, \$1.50 at

Coke.-We quote at \$2 @ \$2.25 at furnace; Foundry Coke at 8¢ @ 10¢ & bushel.

Cincinnati.

SEPTEMBER 22, 1884. — Pig Iron. — No changes reported in any of the conditions from last week, the demand remaining about

COKE FOUNDRY.

considerable sales have been made at these low quotations. The supposition is that the Iron offered at these figures is made of a large percentage of inferior Ores, as standard brands are still selling at full figures:

Pierson & Co.
Sheets, bdls., 568
Roebling's J. A. Sons & Co.
Mdse. cs., 15
Stetson Geo. W.
Pig. tons. 400

roads from buying even for ordinary wants. Agricultural Steels are lower than last year not to be wondered at in view of the present Pig Iron.—Citico Furnace was blown out during the week for repairs, and will go a the last decline. The Norton Iron Works, in about the first of the year. She was which have been rebuilt at Ashland, Ky., making an average of 90 tons per day, larger product than ever. This may affect prices unfavorably here and in the South, their chief market, as they will have to get altogether new business. General trade is improving. A good many buyers are in the city, attracted by the exposition and its low railroad fares. The crops of this State—wheat, tobacco, hay and corn—are exceptionally heavy and of good quality.

Baltimore.

W. N. WYETH, Iron and Steel Merchant.

Ref. Bar Iron, 1 to 6 x % to 1 % 10 1 9-10 @ 2 e
" 1 to 416x 116 to 1 9 10 19-10 @ 9 e
" " 34 to 2, Round
and Square # 10 1 9-10 @ 2 @
Hoop Iron, 11/4 wide and upward " 934 @ 8 e
Band Iron, from 116 to 6 in. wide " 216 @ 26-10e
Horse-shoe Iron " \$1-10 @ 8 2-10¢
Norway Nail Rods " 5 @ 514 e
Black Diamond Cast Steel " 10 @ 11 ¢
Machinery Steel " 416 6 5 ¢
Spring Steel " 4 @ 414 ¢
Common Horse Nails " 10 @ 11 ¢
Railroad Spikes, 534 x 9-16 " 234 @ 2 6-10¢
Perkins's Horse Shoes, W keg of 100 fb\$3.8736
" Mule Shoes 4.8736

St. Louis.

HOFFER & Co., of St. Louis, report to us Merchant Iron.—The Bar Iron market is a little firmer, with no improvement in prices. We quote at \$1.70 for round asprices. We quote at \$1.70 for round asprices.

or condition or minimot.	
MILL PRONS.	
Red-short	
FORGE.	
Stonecoal, Coke and Charcoal	15.00 @ 20.00
HOT BLAST CHARCOAL IRO	NS.
Miasouri	19.50 @ 20.00
COAL AND COKE IRONS.	
Missouri	17.50 @ 18.00 17.00 @ 18.00 20.00 @ 23.00

Imports and Exports. IMPORTS.

The following were the Imports of Hardware, Iron, Steel and Metals into the Port of New York for the week ending Sept. 23, 1884:

From last week, the demand remaining about equal to the supply—a "from hand-tomouth" business, supposed to be safe as to lower prices, and not so sure as to an advance. The foundries and rolling mills all claim that they are stocked for the present and are willing to trust the market for future supply:

CHARCOAL FOUNDRY.

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CHARCOAL FOUNDRY.

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CHARCOAL FOUNDRY.

CORE FOUNDRY.

New York for the week ending Sept. 23, 1854:

Bardware.

Baldwin Bros. & Co.

Gun barrels, cs., 28

Gour barrels, cs., 28

Courley, cs., 67

Tryon E. & & Co.

Cutlery, cs., 5

Taylor Thos.

Gour barrels, cs., 28

Gour barrels, c Order.
Mach'y, pkgs., 2
Arms for Balt., cs., Arms, cs., 16
Field Alfred & Co.
Mdse., cs., 20
Gun, cs., 20
Cask, 1
Anvils, 25

Baring Bros. & Co.
Pig, fons, 100
Bars, 6448
Wire rods, coils, 1506
Ore, kg., 300,000
Brown Bros. & Co.
Bars, 2364
Crocker Bros.
Spiegel, tons, 214
Spiegel, tot, 1
Pig, tons, 290
Cortis R. J.
Wire, bdls., 50
Coddington T. B. & Co.
Sheets, bdls., 59
Downing B. F. & Co.
Pig, tons, 300
Droxel, Morgan & Co.
Wire rods, coils, 882
Eckstein Chas. G.
Girders, 18
Hammacher & Co.
Wire, clas., 2

Eckstein Chair.

Girders, 18
Hammacher & Co.
Wire, cks., 2
Hannore J. W.
Wire netting, rolls, 10
Lalance & Grosjean Mfg.
Co.
Sheets, bdls., 330
Lundberg Gust.
Bars. 25,617
Morton, Bliss & Co.
Sheets, cs., 45
Naylor & Co.
Spiegel, tons, 1000
Spiegel, ton, 1
Bars, 17,981
Bundles, 1969
Page, Newell & Co.
Wire rods, coils, 6

Baldwin Bros. & Co.
Platina, case, 1
Bank of Montreal,
Tin plates, bxs., 180
Bache Semon & Co.
Tinfol, cs., 5
Bruce & Cook,
Tin plates, bxs., 74
Crooks Robert & Co.
Tin plates, bxs., 1427
Cort N. L. & Co.
Tin plates, bxs., 132
De Wilt H. R. & Co.
Tin plates, bxs., 581
Dickerson, Van Dusen & Co.
Tin plates and terne,
bxs., 2428

Co.
Tin plates, bxs., 963
Field Alfred & Co.
Gun caps, cs., 19
Glifillan, Wood & Co.
Tin, slabs, 1433
Hendrick Bros.
Lead, pigs, 476
Antimony, cks., 34
Heroy & Marrenner,
Tinfoil, cs., 3
Hibbard, Spencer & Co.
Gun caps, cs., 2 Hibbard, Spencer & Co. Gun caps, cs., 2
Moorewood G. B. & Co. Tin, slabs, 384
Moore's Sons J. B.
Gun caps, cs., 18
Naylor & Co
Tin plates, bxs., 2835
Page D. S.
Tin plates, bxs., 292
Phelps, Dodge & Co.
Tin plates, bxs., 12, 388
Antimony, cks., 65 Moss F. W.
Bundles, 39
Bars, 23
Naylor & Co.
Rods, bdls., 552
Hoop, bdls., 552
Rawlin G. E.
Cases, 17
Temple & Lockwood,
Packages, 115
Wagner W. F.
Bundles, 129
Bars, 38
Cases, 9
Packages, 152

Bick taggers, bas., 10 angers, bas., Pet. cooking ma-chines, cs., 392 Scoville Mfg. Co. Mdse., cs., 6 Tiffany Chas. L. Cases. 9 Packages, 152 der. Tires, 186 Rings, bdls., 18 Bundles, 3 Bundles, 8 Packages, 89 Armor plates, 4 Bolts, bxs., 15 Cases, 9
Tryon E. K. & Co.
Gun caps, cs., 9
Order.
Tin, slabs, 3539
Tin plates, bxs., 26,189
Tin proces, 2456 Metats. Ansonia Clock Co.

Mdse., cs., 6 exandre F. & Sons, Ore, bags, 198 Tin pipes, cks., 6 Tin, ingots, 2156 Plumbago, cks., 150 Lead, pigs, 817 The importations of Hardware, Cutlery and Metals for the week ending September 17 were as follows:

	Quantity.	Value
Antimony		5,496
Anvils	. 30	889
Brass goods	85	2,584
Bismuth	. 7	2,45
Bronzes	. 58	6,787
Chains and anchors	13	1,150
Clocks	91	8,58
Cutlery		52,186
Juns	178	25,860
Hardware	8	898
ron, pig, tons	2,463	46,780
iron, sheet, tons	47	2,755
ron, cotton ties	2,200	1,764
ron, other, tons	2,120	96,423
Lead, pigs	20	66
Machinery		5,856
fetal goods	. 235	25,701
Veedles	10	2,965
Vickel	9	3,682
Old metal	****	670
latina		18,496
latedware		633
ins		1,986
laddlery	31	4,108
Iteel	48,040	79,874
pelter, lbs		8,396
liverware	8	391
in, boxes		201,081
in, 2372 slabs	961,983	50,172
Vire	. 8	884
ane		6,486
ine oxide	880	987

The comparison with previous dates is as

	For the week.	88 weeks of 1884.	Same time 1883.
Cutlery, pkgs	148	8,868	5,885
Hardware, pkgs	. 8	549	888
ron, R. R., bars		9,422	10,642
lead, pigs		28,360	6,224
steel, pkgs	48,040	1,867,366	2,392,852
lin, bxs	46,257	1,456,327	1,527,486
l'in slabs, lbs		17,749,299	17,237,215
EX	PORT	S.	

The following were the Exports of Hard-Raifroad cars, ware, Iron, Machinery, Metals, &c., from the Port of New York, for the week ending September 23, 1884:

Quan. Val. Mf. iron, pkgs 34 270 Ptlm., gals. 75,160 9,891 Nails, kegs... 100 300 Ptlm., gals.147,360 12,894 | British Guiana | Hdw., pkgs. 11 | 902 | Mf. iron, pkgs. 23 | 184 | Cutlery, pkgs. 15 | 147 | Foliose, pkgs. 16 | 147 | Foliose, pkgs. 16 | 147 | Foliose, pkgs. 17 | 148 | Foliose, pkgs. 18 | 148 | Foliose, pkgs. 18 | 148 | Foliose, pkgs. 19 | 149 | Foliose, pkgs. 19 | 149 | Foliose, pkgs. 19 | 149 | Foliose, pkgs. 15 | 148 | F

Brazil.

Rifles, cs. Car registers, case. Scales, cs. Needles, case.

Hayti.

Uruguay.

Central America,

In plates and terne, bys., 3428
Downing, Sheldon & Co.,
Gun caps, &c., cs., 1
Downing R. F. & Co.,
Tin plates, bxs., 40
Drexel, Morgan & Co.
Tin plates, bxs., 726
Eric and Gt. West. Dis.
Co. Hdw., pkgs... 19 850 Mf. iron, pkgs 54 554 Ptlm., gais...10,895 1,118 Iron, pkgs... 35 1,044 British West Indies. British West Indies,
Hdw., pkgs... 52 566
Pt..., gals...24,446 2,561
Tacks, case... 1 16
Clocks, case... 1 61
Mf. iron, pkgs 30 676
Mach'y, pkgs. 11 285
Zinc, slabs... 25 28
Nails, kegs.... 80 240
Saws, case... 1 50
Sew. ma., ca... 19 186
Ag. imp.,pkgs 4 31
Cartridges,cs... 6 87
New Brunswich

New Brunswich
Ptlm., gals... 5000 500

Tacks, case... 1 16
Clocks, case... 1 61
Mf. iron, pkgs 30 676
Mach'y, pkgs. 11 285
Xinc, slabs... 25 28
Hdw., pkgs. 114 1,813
Yalls, kegs... 80 246
Ptlm., gals.. 14,082 1,530
Saws, case... 1 50
Saws, case... 1 50
Sew. ma., cs... 19 186
Ag. inp.,pkgs 4 31
Cartridges, cs. 6 87
New Brunsweck.
Ptlm., gals.. 5000 500
Dunktrk.
Ptlm., gals.. 229,703 15,700
Les Sables D'Olonne.
Ptlm., gals. 229,703 15,700
Les Sables D'Olonne.
Ptlm., gals. 23,081 9,054
Cette.

Vruguay. Ptlm., gals.451,881 32,760 ### Ptlm., gals...21,000
| Iron, casks... 12
| Hdw., pkgs... 13
| Ag.imp., pkgs 234
| Tacks, cs... 8
| Cutlery, cs... 8

Barcelona. Antimony, cks., 65 Black taggers, bxs., Ptlm., gals.421,472 83,180 Barre. Ptlm., gals, 932, 882 18,018 Copper, cks... 404 65,650 Sew. mach, cs. 278 4,102 Hdw., cs... 2 134 Mf. iron, pkgs 3 79 Cop. carboys, cs.... 9 675 Copper, cks. 404 65,650
Sew. mach, cs 278 4,102
Hd.w., cs. ... 2 134
Mf. iron, pkgs 3 79
Cop. carboys, cs. ... 9 675
Copper, bars 167 2,900
Mach'y, pkgs 26 1,511
Scales, cs. ... 13 300
Mach'y, pkgs 2 595
Mach'y, pkgs 2 1 1395
Sew. ma. case 1 10
Sew. ma. case 1 10
Sew. ma. case 1 10
Central America.

French Possessions in Africa. Ptlm., gals 190,748 17,100 French West Indies. Ptlm., gals.. 12,000 1,195

Central Amer
Ptlm. gals . 5,842
Mach'y, pkgs. 115
Mf. iron, pkgs 41
Nalls, box . . . 1
Cartridges, cse 1
Cutlery, cs. . . 4
Shot, box 1
Revolvers, cse 1
Ag,imp., pkgs 2
Iron safe . . . 1
Sew ma. cs. . 4 Porto Rico.
Ptlm., gals... 500 95
Spanish Possessions in Africa. Ptlm., gals. 25,300 2,482 Hdw., case... 1 Ag.imp., pkge 1 8 Hdw., pkgs... 10 Lisbon. Genoa. Hdw., cs..... 2 100 Fiume. Primers, case. 1 Mach'y, pkge. 1 Mf. iron, pkgs 2 15 Flume.
9 Ptlm., gals 421,709 31,225 Naples.

Trieste.
90 Ptlm., gals,313,586 24,300 Hdw., cs..... 5 90

Cuba.

Hdw., pkgs... 91 1,307
Lead seais,
bas..... 2 21
Nails, kegs... 52 162
Scales, pkgs... 16 169
Ag, imp., case. 1 91
Mach'y, pkgs. 50 2,841
Cop. tubes, cs 3 200
Mf. iron, pkgs 187 1,282
Fdim., gals. 41,300
Mf. iron, pkgs 187 1,282
Fdim., gals. 43,000
Mf. iron, pkgs 187 1,282
Spikes, kegs... 20
Iron safes... 2 533
Cartridges, cse 1 502
Cutlery, cs... 4 130
Tacks, cs... 4 130
Muscat.

Muscat. Hdw., cs..... 5

Muscat. | Mach'y, pkgs. 199 | 9,498 | Hdw., pkgs. 90 | 2,439 | Cutlery, pkgs. 17 | 583 | Cartridges, cs. 306 | 1,700 safes. 3 | 170 | 2,602 | 1700 safes. 3 | 1700 saf Ptlm., gals.160,000 15,900 Mewico. Mexico.

Hdw.pkgs... 41 1,871
Tacks, cs.... 8 142
Sew.ma., cs... 151 4,655
Sew.m. oil, cs. 7 109
Firearms, case 1 233
Boiler tubes,
bdls.... 42 1M
Scales, case... 1 70
Mfg. ir., pkgs... 6 51
Iron barrows,
pkgs.... 71 1,000
Raifroad cars,

might be better. Makers are still in hopes that the Government will soon come to a decision about adopting Metallic Sleepers, and also regarding new branch lines of railroad to be built. We quote Beams, 12 francs; Corners, 12.50; Sheets, 15.50; 25.50; Steel Rails, 13.50; do. Hoope, 18, and Axles, 19. Metals have been steady. We quote Copper, 147; Banca Tin, 224; Billiton, 216; Soft Lead, 27.50; Belgian Spelter, 35.25, and Antimony, 107. Coal.—The demand for Coal for domestic use has begun to set in. The 148 Belgian Coal mines turned out during the first six months 9,010,095 tons, against 9,006,443 last year, when there were 151.—Moniteur Industriel. Quan. Val

GERMANY.

GERMANY.

Hamburg, September 9, 1884.—Iron.—The situation in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in Upper Silesia is a firm one in everything realization in the way in this marker of Rod Iron have contracted all the way into the same while, abated a little without weakening prices while, abated a little without weakening prices at the following and the Gleiwitz Antonia Works have erected new blast furnaces capable of Works have erected new blast furnaces capable of the following quotations, in marks, \$\frac{3}{2}\$ ton:

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1.856 Ptlm., gals ...1,130 232

ROTTERDAM, September 6, 1884.—Tin.—The market here and in Amsterdam opened with an upward tendency, but was not sustained, and finally closed flat at 51.25 guilders, Banca, and 49.25 Billiton, both spot, and the latter, afloat, 49.50 @ 49.6246.—Koch & Vlierboom.

AUSTRIA.

AUSTRIA.

Vienna, September 7, 1884.—from.—Expectations as to a vigorous fall revival in the Iron and Hardsato a vigorous fall revival in the Iron and Hardsato a vigorous fall revival in the Iron and Hardsato and the demand for Agricultural Implements any bet the demand for Agricultural Implements any bet the demand for Agricultural Implements any bet but prices are so low that the farmer does not feel but prices are so low that the farmer does not feel ware, which he usually does in fall; hence, dealers sell very little, retailers not feeling disposed to replenish stocks. Nor are matters any better in the railroad-material line; as for makers of rolling stock, it now appears that the orders they have secured do not extend beyond the month of October of the rext. They waited on the Minister of Commerce in order to ascertain what the prospects were for obtaining orders from the Government lines. The answer was that the latter would only give them gradually. Half of the locomotives ordered so far this year will come from abroad. The solution of the properties of the properties

CHILI.

To Northern Europe. 37,777,720 4,694,329 4,688,699
To the Mediterranean. 74,517 139,159 137,966
To the United States... 892,016 736,561 901,492 Total...... 4,684,253 5,500,048 5,677,547

days' sight on London, 31\(\frac{1}{2}\)d.—Weber & Co.

AUSTRALIA.

Sydney, N. S. W., August 13, 1884.—Iron.—
There has been a good run of trade during the fortnight, buyers flocking into the market because their stocks had run low and they were afraid of a further advance. The situation here is satisfactory both as regards Iron and Hardware. No further improvement can be regarded for either, but both importers and the trade look confidently into the future. At current rates goods move off quickly. We quote Galvanized Iron No. 25, £30.

10/, and Fence Wire No. 8, £11. 17/6.—Argus.

	nd.	No.	Kin	d.			No.
2d	Fine	 1,000	10d	Common	١		58
8d	60	 760	12d	4.5			44
3d	Common	 480	16d	8.6			34
4d	65	 288	20e	6.5			23
őď	6.5	 200	30d	6.6			18
6d	66	 168	40d	60			14
7d	0.6	 134	50d	64			10
8d	0.6	 88	60d	6.5			8
9d	8.9	 70					

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Bergiener 23, 1884;

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Trade Report.

General Hardware.

Trade continues rather quiet, the demand being acknowledged to be considerably less than is usual at this season. The goods that are moving are mostly in lots comparatively small. Prices have not materially changed since our last report, but careful buyers can often get concessions on regular quotations. The general report is that collections are fair, and, considering the condition of trade, as good as could be expected. The conservative course of manufacturers in avoiding an overproduction of goods, and the caution with which the Hardware trade purchase, are to be regarded as healthful features in the market at this time.

NAILS.

A good, active trade is in progress, and inquiries indicate its continuance. A fair proportion of large lots is being sold, and if sellers were disposed to meet the views of buyers as to prices they could augment low figures if the or their business considerably. It is remarked the regular prices. that the number of brands most favored in this market is growing smaller, some of the factories having shut down and others refusing to meet the lowest prices now current. One of the latest factories to discontinue production is that at Wareham, Mass., operated by the Bridgewater Iron Unremunerative business is the cause of their shutting down. Other factories are expected to follow their example if prices do not improve. Restriction of production is the only cure for the condition in which the Nail market has been thrust by the ill-advised efforts of some companies to realize on their surplus product. Sales are occasionally made by these manufacturers for delivery on dock in carload lots at prices considerably under these quoted for regular store lots. It is explained that this is inevitable, as sales thus made are out of the regular channels of business, and buyers are obliged to assume the risk of getting some sizes which they do not immediately need and may have to retain on hand for severa before they can be disposed of. Hence, sales thus made are regarded as exceptional. Those buyers who purchase from New York stores pay from \$2.15 to \$2.25, according to quantity and brand, occasional sales being made at concessions for large quantities.

Business is represented as somewhat quieter than it has been, though local establishments report themselves still fairly supplied with orders. Prices are very unsatisfactory, having reached a point yielding no profit to the manufacturer, though they are no lower than has recently been stated. The demand must be better in some other sections, however, as we hear of concerns resuming work which have been idle for a long time, and in many cases they resume with increased facilities for turning out Wire. No improvement in prices is anticipated at present, and in the opinion of those interested it will not come until the prices of Rods and Plain Wire harden. Quotations are still reported on a basis of 51/4 to 51/4 cents for Galvanized Four-Point, according to quantity, Painted being I cent per pound cheaper.

RAILBOAD SPIKES.

The combination among manufacturers of these goods is understood to be unable to hold up prices any longer, owing to the competition of a few outside concerns, and the condition of affairs now seems to be "every one for himself." We hear of offers as low as \$2.10 for large lots for delivery at points in this vicinity. Lower prices than this have been made for delivery at Western points.

THE CUTTING OF PRICES.

On reviewing the correspondence which has appeared in these columns, there are several facts which are brought very clearly to light. One, which is established on the testimony of manufacturers, jobbers and retailers, is that we have understated rather than overstated the extent to which the practice is carried and the mischief which it makes in prices and trade generally. The communications which have come to us from houses in all parts of the country and from manufacturers occupying the very highest position in the trade, whose goods and names are known by all our readers, afford the best evidence not only that this is a mischievous element in the present condition of the Hardware trade, but that it is a growing evil which has recently been carried to much greater lengths than in the experience of the trade in former years. There seems also to be substantial uniformity of opinion upon this point, that it is well to discuss this matter, ascertain the real facts of the case, and by letting light in on sults from the practice is in the long run the evil prepare the way for its mitigation or removal. It is gratifying to observe that the most experienced and influential manufacturers unite in expressing their hearty sympathy with the efforts we are making in this direction.

our correspondents should suggest different cutting, looking at the matter from the point causes which in their judgment have been

greater or less extent. Looking over the letters which have appeared in our columns we find that the following causes are mentioned by our different correspondents as the principal ones tending to produce this the principal ones tending to produce this goods) hardly justifies a shipment nowa-state of things and induce the cutting days. We try and keep as few goods as of prices, of which so much complaint is

1. The prevailing custom which is to a large extent peculiar to the Hardware trade of giving a long series of discounts, beginning, as one correspondent has expressed it, at 50 or 60 per cent. and running down to I per cent.

2. The desire of the jobber for too much profit, several of our subscribers suggesting that the jobber should be satisfied with 10 per cent., another naming 5 or 10 per cent.

3. The fact that the jobber pays little regard to the quality of the goods, a low discount, except in the case of goods of established reputation which his trade demands, generally getting his order.

4. The method now almost universally adopted of selling goods through traveling salesmen, who are necessarily given a broad discretion, and who desire to sell goods at low figures if the orders cannot be secured at

5. The prevailing inactivity in business and overproduction of goods.

6. The obligations under which manufacturers seem to consider themselves laid to meet all competition.

7. The credulity of travelers who believe, or affect to believe, whatever they hear with reference to low prices offered on competing goods, and the readiness with which they in many cases meet quotations that never were made.

8. The broad margins that are given by the manufacturers to the jobbers, enabling them to undersell the manufacturers' regular rates and still make a fair profit.

9. The cutting of prices by the manufacturers themselves, which induces the jobber to do likewise.

10. The practice of giving a special dis ount to a few of the large jobbing houses, who, it is alleged, do not, and will not, keep it

II. The giving of quantity discounts, which put a premium upon larger orders than are required for the purchaser's legitimate trade, inducing him to unload at special figures below the manufacturers'.

It may be interesting also to notice some of the remedies which are suggested by our correspondents:

1. That the present condition of things be permitted to continue without interruption until it runs its course, the weaker manufacturers dropping out, jobbers being superseded, and manufacturers learning to do asiness on business principles.

2. That manufacturers stop giving jobbers special discounts, especially the extra 10 to the big jobbers.

3. That the jobber make himself useful to the manufacturer as well as the retailer, instead of demoralizing the manufacturers

prices, as he too often does. 4. That the jobber be controlled as to the prices at which he sells goods, and that goods be not sold to parties who break the

5. That there be a union among manufac turers to thus restrain the jobber, determining the price at which goods shall be sold to him, and at which he shall be at liberty to sell.

6. That a Hardware Exchange be established in each large city, governed by the manufacturers, where their goods could be represented and sold.

7. That a rebate at the end of the seas be given to jobbers who have sold the goods without cutting prices.

8. That The Iron Age publish the bottom prices on goods, as the jobber, it is suggested, seems bent on suicide, any way.

9. That manufacturers, instead of having

a sliding scale on prices, sell all purchasers at substantially the same figure, having one price for retailers and jobbers.

10. That the jobbing system be discourged and as soon as possible abolished

11. That manufacturers visit the retailers, and, if necessary, the consumers, and sell them goods direct, as in some lines they are beginning to do.

But passing now to the subject as seen from another side, we have the pleasure of informing our readers that we have received from Hardware merchants throughout the country a number of communications on the cutting of prices, a subject in which they seem to take as much interest as the manufacturers. They all agree in representing the cutting as extensive, and, like our other correspondents, fail to suggest any remedy. Viewed from their standpoint they are not disposed to complain much of this slaughtering of prices, which is for their immediate and direct benefit, and yet several of them have written to us in expressing the view that the demoralization of prices which redetrimental to the trade and against their interests. The letter which we print below from a merchant in Indiana refers to this point, and gives an illustration of the manner in which prices are demoralized:

I have read with much interest the articles As this subject has been regarded from on the cutting of prices. The retailer is many different standpoints, it is natural that not the one to wish for any cessation in cutting, looking at the matter from the point that it is to our interest to get goods at the lowest possible price. Looking at it in another way, a retailer expects each travel

prefer dealing with the jobbers rather than with the manufacturers, as their prices are generally better, and I can sort up on differ-ent lines of goods. The quantity of any one line of goods on one order (unless season necessary. I can mention one instance of jobbers cutting under manufacturers. I wrote to the — Manfacturing Company for quotations on —; also to Chicago and Cleveland. The manufacturing company quoted discount 25 per cent.; (naming a well-known Chicago house), count 30 per cent.; —— (naming a Cleve-land house), discount 35 per cent. I buy goods often from jobbers in special lines, prices guaranteed against the manufacturers. General opinion among traveling men seems to be that there will be no advance in prices until July, 1885. So under existing circumstances the cutting is likely to go on. Our esteemed correspondent, whose letter

is given above, is not the only one who referred to the demoralization of prices and the feeling of uncertainty which the average retailer suffers as to whether or not he has purchased his goods at the best figures to which he is entitled. This point is brought out clearly in the remark of an Ohio Hardware house, who write to us that from their standpoint they think prices are cut to even a worse extent than represented, so that they are not sure at any time that they have reached bottom, and add that this bottom is always found somewhere in the hands of the jobbers, rarely or never with the manufacturers, except in the Nail and Iron trade. The extent to which the manufacturers' prices are broken by the jobbers is shown in there is no object whatever in giving small orders to manufacturers, as we can invariably reach an extra through jobbers." They then refer to some lines of goods which in their experience they have found thus broken in price, mentioning, among others, all combination goods, adding significantly that, no matter how long and how strong the combination or the agreements, the first man out on the road for the jobbers will take the orders in some shape, if he has to pay the difference out of his pocket and charge it to road expense. The letter closes with this remark : present state of trade now seems to be for the retailer's benefit, but we feel that it is not, and that it is extremely depressing and unhealthy. We see no remedy other than a better class of traveling men, with a higher standard of business honor, or a sworn statement of every man on the road as to the direct or indirect sales on combination

The letter which we give below mentions as a potent cause which is at the basis of the cutting of prices the fact that the jobbers are given such wide margins in the shape of heavy discounts. If this view is correct manufacturers will see that they must take to themselves a share of the blame if the jobbing trade break their prices:

To the Editor of The Iron Age: Having read your correspondence giving the various complaints of manufacturers, jobbers and retail dealers, I conclude that all have cause for complaint, growing out of the large special discounts or low prices allowed some large dealers. The complaints of each seem to be well-grounded, but I think the practice more pernicious to the retail dealer than any other, especially where strong competition runs rife; for instance, a runner that is disother posed to make all he can for his employers succeeds in selling us goods at combination prices; presently other parties come in to find that our store is well supplied and not in want of any more of the goods; but the runner, wishing to sell goods to our competitors, in order to induce them to buy offers certain lines of goods at 10 per cent lower prices, or more. Now retail cent lower prices, or more. Now, retail country dealers cannot compete with such opposition. Ten per cent is too much difreduced. Ten per cent. is too much dif-ference in merchants buying goods. I think the practice of large special discounts should be done away with entirely or very much reduced.

The following blunt and forcible statement of the case is from a merchant in Texas, and presents some considerations which are worthy the attention of all inter-

To the Editor of The Iron Age: The discussion of the question in regard to cutting prices seems to be interesting to the Hardware trade throughout the country. I am a small jobber. My trade is solicited by manufacturers as well as large jobbers. Time and again have manufacturers assured me that I was getting their very best discounts, and no large jobber could buy lower, but the large jobber would knock these very best discounts sky high. I never investigate whether the manufacturer acts in bad faith, or whether the jobber sacrifices his legiti-mate profit. The question with me is: "Where can I get the best goods demanded by my line of trade at the lowest price ?"
With cash in hand I never experience any difficulty in getting satisfactory prices. All the remedies suggested so far in your valuable paper are worthless. The whole thing is regulated by the laws of supply and demand. The cutting of prices will not cease as long as there is an oversupply of goods in the country. If a Nail mill has a warehouse full of Nails and no orders booked ahead, and you make an offer below the market price, your offer is very apt to be accepted. The manufacturer may have sold fifty times the quantity last week to a large jobber at a higher price; he does not lose a moment's sleep over the injury he inflicts on him. On the other hand, if a large jobber

ency to abeck themselves: I. By stimulat- tion for an era of better business which must manufacturers out of the ousiness. The en-tire army of middlemen, from the smallest retailer to the largest jobber, are powerless in regard to making prices. An advance in price can only be caused by the manufacturer in making less goods or the consumer in wanting more. A decline in price can only wanting more. be caused by the manufacturer making more goods or the consumer wanting less. middleman can no more control prices than the former can control wind and rain.

The following communication is brief and to the point, again referring to the large quantity discounts which it has been the policy of so many manufacturers to give to the jobbing trade :

I have read with interest your articles regarding "cutting of prices." I have been in business since 1857, and notice the trouble lies with the manufacturers themselves in giving larger houses a larger quantity discount, which is given away in the jobbers trying to supersede their neighbors in the same trade. Let them make one price on their goods and sell only to parties of good standing and known reliability, and there would oon be a change.

From a well-known house doing a jobbing as well as a retail business we have a letter in which they express themselves as thoroughly disgusted with the way goods are slaughtered, and they mention some leading goods, many of which are in combination, which are sold pretty regularly at a cut price. Several instances of this they confidentially name, showing the extent to which the practice is carried, and the demoralizaon in prices which results. But as this remark: "As the trade stands now indicating some of the prevailing methods, and giving a hint as to the way the thing is done, we give our readers an extract from their interesting communication

Our observation has been that there is more cutting among the jobbers than the manu-facturers. We think one of the causes is that the jobbers try to reach the extreme quantity to get the extreme prices. In many cases their legitimate trade will not justify cases their legitimate trade will not justify them in buying the quantity, so they com-mence giving some of their "friends" part or all the rebate—in other words, "whack up" with them in order that they may secure the quantity rebate. These many "friends" are sometimes treacherous, and give it away to friends of theirs, who meet the price. Then the music begins, and in such trans-actions we think the fiddler pays the dancer instead of the dancer paying the fiddler. Shrewd business men are suspicious of houses who do the cutting business, and buy, as a rule, the "baits" only, while the good order goes to some reliable house. We think part of this difficulty might be overcome by manufacturers ascertaining to a certainty who are jobbers, and put such on an equal basis. This surely would do away with the "whack-up" business to reach the quantity. One thing is certain, and that is that mer-One thing is certain, and that is that merchants are, under existing circumstances, taking too much risk in the way of losses by bad accounts for the profit there is in the business. When they come to make up the final balance sheet for the year they wonder how they can sell so many goods and make so little money. We hope the question will continue to be agitated until some means can be devised by which all can make a fair margin. No doubt overproduction is the starting point in many cases for cutting. starting point in many cases for cutting. Merchants have the goods and must unload.

In the letter which we give below, which vas crowded out from our last issue, the manufacturer finds some hope of the solution in the concerted action of manufacturers who will control their products and regulate their prices to the jobbers, and the prices at which the jobbers are at liberty to sell their

To the Editor of The Iron Age: We are

very much interested in the discussion, "cutting prices," and it looks as if an exchange of views between manufacturers and jobbers, ought to develop some plan by which the evil could be abated. We all understand the evil could be abated. We all understand how, for the last two years, there has been a constant shrinkage in the consumption of manufactured goods. Manufacturers, finding this trade growing less, would push their goods on the market correspondingly harder. Jobbers, experiencing the same troubles, would resort to the same energetic measures to avoid the same trouble. Results, lowering of prices by manufacturers to keep their works busy, facturers to keep their works busy, and a wholesale slaughter of prices by jobbers to unload their goods before a further decline would leave them in the lurch with a stock of high-priced goods We don't believe the jobber is to be hand. blamed for the part he has taken. We be-lieve the trouble is principally with the manufacturer, and we can only see one way out of it. Manufacturers must by concert of action contract their product, that there will be no overproduction; next, they must agree among themselves upon prices to the jobbers. Then they must adopt some intelligent plan by which they will give the jobber a rebate at end of the season, pro-vided the jobber does not sell the goods below the purchasing price. By this means cutting of prices can be stopped and manufacturers and jobbers realize a fair profit.

Combinations and pools as too frequently conducted are odious, but if fairly and honestly organized and conducted they are a benefit to manufacturers, jobbers and consumers. We believe we have all got to come to it, and we would like very much to hear an expression of opinion. MANUPACTURER.

MANUFACTURING ENTERPRISE.

A reference to our department of Industrial Items from week to week will show that manufacturers are taking advantage of dull times and low prices to make improvegets a special discount and pledges his ments. The commercial depression affects causes which in their judgment have been instrumental in bringing about the present condition of things, and that they should suggest different remedies which would be more or less likely to correct the evil to a lower lost confidence in the market. I

ing consumption 2. By forcing the weakest dawn before long, while entirely new entermanufacturers out of the business. The enprises are being undertaken by men who prises are being undertaken by men who have faith in the developments of the future, and will be ready when the time comes to "seize occasion by the hand." Removals of works to better locations, it will be observed, are not infrequently mentioned. Only a few days ago a Connecticut hardware manufacturer remarked that for years he had been cramped for room in his old location, and had suffered great inconvenience from inadequate transportation facilities, but had always been too busy to take time to move to a better point. He is, therefore, not disposed to grumble at the present lull in business, which permits him to select an eligible site elsewhere, to construct his new shops after carefully matured designs, and to feel that when business revives he will be able to do more work and with greater comfort than ever before.

MISCELLANEOUS ITEMS.

The price of Rappleye's Improved Saw Jointer, made by F. A. Rappleye, Farmer Village, N. Y., and illustrated among the Hardware Novelties on page 31, is \$3 per dozen, subject to a discount of 50 and 4 per

The Alford & Berkeley Company, 77 Chambers street, New York, are expecting very soon to receive sufficient of Allard's Patent Screw Drivers, for which they are agents, to fill the orders which have been waiting for the goods for some time, and also to enable them to carry some in stock for the further demands of the trade. We learn that this Screw Driver has recently been materially improved both in material and style of construction, gun-metal nuts having been substituted for the white-metal ones, and wider grooves being made in the steel shank, thereby, it is claimed, giving more material to wear in the metal of which the nut is composed, thus rendering the tool more durable and consequently more desirable than formerly.

Harrison Brothers & Howsen, for whom W. C. Burkinshaw is sole agent at 126 Chambers street, New York, announce that they have received from Sheffield, a full line of Cutlery, which they will carry in stock, mentioning that they find the condition of business is such as to make it advisable to do so this year. The line they have in stock comprises Ivory, Pearl, Ivoride and Black Rubber Table Cutlery, Pocket Cutlery and Razors, and other goods suitable for the Holi-

day trade.

Henry Schade, 56 Ainslee street, Brooklyn, and 26 John street, New York, advises us that he is about to finish an exceptionally large order, consisting of 5000 sets of Hollow-ware, comprising Caster, Butter Dish, Fruit Stand, Napkin Rings, &c., 11 pieces.

We are in receipt from Morley Brothers, East Saginaw, Mich., of an interesting and attractive catalogue illustrating the Blue Line Lumbering Tools, which they offer to the trade. In their introduction they mention that these Tools are manufactured of the best materials, by practical mechanics, and that, situated as they are in the midst of the largest lumbering district in the United States, they are constantly in communication with the most experienced and extensive lumbermen and thus have the benefits of their practical advice. For the information of those who are interested in this line of goods we would say that this unique catalogue covers such Tools as the following: Ring Peavies, Socket Peavies, Cant Hooks, Cant and Peavey Hooks and Clamps, Loading Blocks, Swamp Hooks, Chain Hooks and Cold Shuts, Cant Hook and Peavey Handles, Hand Spikes, Pike Poles, Skidding Tongs, Boot Calks and Sets, Board and Log Rules, Log Calipers, Rafting Dogs, &c. It also exhibits Benjamin's Lock Binder, a contrivance patented June 17, 1884, which is ecommended as simple, effective and dura-W. Dodman, 107 Chambers street, New York, is agent for this line of goods, of which samples can be seen at his office. The Higganum Manufacturing Corpora

tion, Higganum, Conn., issue a small pamphlet illustrating Implements for farmers' use, among which we note as new articles Clark's Improved Root Cutter and a new Right-Hand Sheller, the "R. V. C.," for which they make special claims On page 35 our readers will find the ad-

vertisement of the Taylor & Boggis Foundry Company, Cleveland, Ohio, in which they illustrate their Patent Self-Feeding Horse Trough. A. B. & B. W. Westervelt, 102 Chambers street, New York, and Chas. J. Field, 633 Market street, Philadelphia, are agents for the sale of this article.

AMERICAN MACHINE COMPANY,

The following is the price list of the Perfection Scale, manufactured by the American Machine Company, Philadelphia, and illustrated among the new goods on page 31. It is subject to a discount to the general trade of 15 per cent., with a further discount of 5 per cent. for cash in 30 days, or of 6 per cent. for eash in 10 days:

Druggist's Scales. No. 14, Brass Pan, 7½ inches diameter; capacity ¼ oz.—2 lbs.
No. 15, Brass Pan, Nickel-Plated, 7½ inches diameter; capacity ¼ oz.—2 lbs.
No. 24, Brass Pan, 9½ inches diameter; capacity ¼ oz.—5 lbs.
No. 25, Brass Pan, Nickel-Plated, 9½ inches diameter; capacity ¼ oz.—5 lbs. 10.75 Tea Scales.

No. 10, Tin Scoop, 12½ inches long; capacity
¾ 0x.—2 lbs...
No. 11, Brass Scoop, 12½ inches long; capacity
¼ 0x.—2 lbs...
No. 12, Brass Scoop, Seamless, 12½ inches long;

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No. 20, Tin Scoop, 1514 inches long; capacity No. 21, Brass Scoop, 15½ inches long; capacity ¼ oz. –5 lbs.
No. 22, Brass Scoop, Seamless, 15½ inches long; capacity ¼ oz. –5 lbs.
No. 23, Brass Scoop, Seamless, Nickel-Plated, 15½ inches long; capacity ¼ oz. –5 lbs. 10.75 11.78 Grocer's Scales (with Scoop only.) . 30, Tin Scoop, 19 inches long; capacity 6 oz.—11 lbs......\$11.00

ss Scoop, 19 inches long; capacity

Grocer's Scales (with Platform and Scoop).

Inches long; capacity 1 0s.—00 lbs... ## 20.75

Butcher's Scales (with Square Marble Slab, 10s.—10s. ## 20.75

No. 47, Marble Slab, 11 x 11 inches; capacity 1 0s.—22 lbs ## 16.25

No. 57, Marble Slab, 12 x 12 inches; capacity 1 0s.—50 lbs... ## 19.00 THE AMERICAN TOOL COMPANY,

116 Chambers street, New York, have issued a supplement to their regular catalogue, showing a variety of Handy Tool Chests and Gentlemen's Tool Chests which they have just added to their assortment. These new combinations of tools will be regarded with interest by the trade. The list giving a description of the Chests is as follows, being subject to a discount of 50 and 10 per cent. Handy Tool Chests.

Handy Tool Chests.

No. 1266.—Size of Chest, 25 inches wide, 3% inches deep, made of Butternut Wood, with Beaded Moldings, Varnished, Large End Till, containing 17 Good Quality Assorted Tools.

No. 1267.—Size of Chest, 25 inches long, 7 inches wide, 3% inches deep, made of Butternut Wood, with Beaded Moldings, Varnished, Large End Till, containing 19 Good Quality Assorted Tools.

No. 1268.—Size of Chest, 26¼ inches long, 7 inches wide, 3% inches deep, made of Selected Chestnut Wood, with Beaded Moldings, Copper Lifting Handles and Varnished, Large End Till, containing 30 Superier Quality Assorted Tools....each, 10.00 No. 1269.—Size of Chest, 26¼ inches wide, 3% inches deep, made of Selected Chestnut Wood, with Beaded Moldings, Coppered Lifting Handles, and Varnished, Large End Till, containing 40 Superier Quality Assorted Tools.....each, 10.00 Lifting Handles, and Varnished, Large End Till, containing 44 Superior Quality Assorted Tools.....each, 12.80 Gentlemen's Tool Chests.

Gentlemen's Tool Chests.

Gentlemen's Tool Chests.

No. 450.—Size of Chest, 22 inches long, 13 inches wide, 13 inches deep, made from Selected Chestnut Wood, with Heavy Bands and Base, and Finished in Hard Oil Finish, Japanned Lifting Handles, and secure Chest Locks. This Chest is made with a Large Drawer at the Bottom, and has Two Shding Tills, with compartments for Small Tools, in the Upper Part; containing 25 Good Quality Assorted Tools. ... each, 1 No. 460.—Size of Chest, 22 inches long, 13 inches wide, 12 inches deep, made from Selected Chestnut Wood, with Heavy Bands and Base, and Finished in Hard Oil Finish, Japanned Lifting Handles, and secure Chest Locks. This Chest is made with a Large Drawer at the Bottom and has Two Sliding Tills, with compartments for Small Tools, in the Upper Part; containing 30 Extra Quality Assorted Tools, each, 1

AMERICAN VS. FOREIGN HARDWARE, The Toledo (Ohio) Post contains a very interesting communication from Wm. Maher, which is as follows:

Those who were in the hardware busine 20 years ago will bear me out in the assertion that more than half of their stock were English or German goods. In one stock with which I was familiar every table knife and fork came from England, as also did the and fork came from England, as also did the carvers, razors, a large share of files, hand saws, padlocks, currycombs, chisels, chains, &c, while Germany sold us scissors, halter chains, hoes; even shovels, grass hooks, scythes, and a long list of goods of this character. Factories were in operation in this country making similar goods, but they asked higher prices than foreign makers, and there was not so much profit in handling their goods. The man who buys goods simtheir goods. The man who buys goods sim-ply that he may sell them again, making a profit on them as they pass through his hands, has about as little sentiment in his knife, an English saw, an English lock, an English chisel, an English currycomb or an English chain. The goods will be American make. Let us see if the consumer has been obliged to bleed in favor of protected Amerimanufactures, or if the American manufacturer has not put money in the purse of

Let us take table cutlery. The cheapest English knife and fork that I can recall 20 years ago was costing \$8 per gross, gold, in England. The knife was made of the poorest grade of steel; the fork was cast iron. A medium-grade knife and fork cost \$12 per gross, and a good knife and steel fork cost \$16 per gross. The Americans had no goods \$16 per gross. The Americans had no goods to correspond in poor quality with the lower-priced English goods; the bulk of trade is always in such goods, so when an American maker solicited the trade of the wholesale dealer he was politely bowed out. He then sought the retailer. His forks were steel, sought the retailer. His forks were steel, his knives were steel, his goods were far handsomer than the foreign, and were put up in a more attractive way. Yes, they cost more than the English, but still he could assure the retailer that people would buy them. The retailer tried a few; he is always more The retailer tried a few; he is always more ready to try than is the wholesaler; he knows better what the consumer will or will not buy, and he likes the idea of buying direct the manufacturer.

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He found that the goods would sell; he ordered again. The manufacturer, hearing so much of cheap goods, concluded it would help sell his regular goods if he had a very cheap knife. So on his next trip he showed a few cheaper patterns; he made not a cent on these, as he figured it, but they helped sell his better goods. But his orders were large enough to encourage him to take in larger lots, and thus reduce the cost, so that he actually found he could make a little dinary Foreign Bessemer is still quoted nom-

profit on the low-priced goods. The wholesale dealers began to observe American goods in many places, and posted themselves: as to prices, and the English agent began to hear complaints of loss of trade here and, there. To head off this he secured patterns: of the new goods, and very soon he went-out on the road to sell English knives of: "American pattern," which, for a while, was a good card. But each trip found a little increased competition from American goods. and each time an order went to England it-went at a less price. The English manufacwent at a less price. The English manufacturers were determined to hold their trade; they lowered their prices; they stamped an iron fork "steel" (as no American maker would do); they copied American patterns, and adopted such names as "Hudson" or "Bay State" on their labels. But year by year their trade grow less until somewhere. year their trade grew less, until somewhere about 1871 or 1872 no jobber was justified in buying English table-knives.

But when the English goods were driven out, did the American makers cease to reduce their price? The question is answered by the statement that American manufacturers sell to-day a better knife and fork, both made of steel, for about \$4 per gross, than we paid \$8 for to English makers 15 years ago. And the full amount of foreign table cutlery of any kind imported to this country cutlery of any kind imported to this country for the year ending July 1, 1882, was but \$750,000; and American cutlery that year was 25 per cent. higher than it is to-day. But did the money come out of the pockets of consumers while the fight was going on ? Did our tariff create a monopoly? Did man-ufacturers wax fat at the expense of the millions who had to buy knives and forks? Are not these statements made by free. Are not these statements made by free traders? I think they are, and I want to be just. I think the questions are answered when I state that the largest concern in the United States sunk every dollar every stock-United States sunk every dollar every stock-holder put into it, and the assets of the con-cern in bankruptcy paid 13 cents on the dol-lar, or thereabouts, to creditors. Also, that another factory in Beaver Falls, Pa., was kept running because the Economites, who owned it, had a long purse and were able to bear the losses. I do not believe a table cutlery company in the United States earned a dollar for its stockholders last year, or that one will run without loss this year. So it is clear to my mind that the tariff has built up this business to the direct benefit of consumers That it has created no monopoly goes with-out saying, for the right to make table cut lery is secure to every citizen of the United States who can get credit enough to buy a hammer and anvil.

New York Iron Market.

The week just closed has again been marked with excessive dullness. Though it had been supposed that some branches of the Iron trade were experiencing an improve ment the previous week, such expectations proved illusory, the relapse into dullness showing that the movement was merely spasmodic. There is no general swelling of the volume of business perceptible, but only a ripple from time to time moves over th placid surface of the business depression. The approach of the Presidential election day, now only about six weeks distant, is causing political excitement to increase, and all hope of doing much business has been abandoned by most people until after the passage of the first week of November.

American Pig.-The transactions occur ring in this market have neither been numerous nor large. Occasionally a buyer plucks up sufficient courage to order a three or four months' supply, but such cases are rare. Even when a foundryman knows that he will require a certain quantity of Iron in the coming three months, he hesitates to order more than a month's supply at a time, but would prefer, if he could do so, to buy from week to week. This has been the condition of affairs for so long that it is now a very threadbare story, but it bids fair to continue for a further period. The market is weak, but there is very little pressure to sell, as not many furnace companies have any stock of Iron on hand. Those who have considerable business as it is possible for a man to have. He simply asks of different goods, "Which will sell the best? which allows the best profit, quality being equal?" To-day, if you examine the hardware stores of Toledo, you will find it difficult to find an English table-profit and English table-profit and English bock, an English saw, an English lock, an examine the hardware stores of the profit and examine the profit and examine the hardware stores of the profit and examine the hardware considerable stocks regard their Iron as good property, and assert their intention to hold it for at least current prices, and not to sacrifice it. The outlook is favorable to further voluntary will find it difficult to find an English lock. vicinity having grown very tired of operating their furnaces without profit. Standard brands of Lehigh and North River Pig Iron are quoted as follows, tidewater delivery No. 1 Foundry, \$20 @ \$21; No. 2 X Four dry, \$18.50 @ \$19; Gray Forge, \$17 @ \$18. Outside brands, \$1 @ \$2 cheaper.

Scotch Pig.-During the week 1200 tons were received at this port from abroad, but of that quantity 300 tons were sent West in bond. There is some little inquiry from Western points for certain brands of Scotch and several hundred tons are sold weakly with that destination in view. The local demand is slight, and few lots as large as 100 tons have been sold, the demand being principally for 5 and 10 tons. Prices abroad continue very firm, but quotations there do not seem to affect this market, which continues about as it has been for some months, with the exception of Coltness, which is now quite scarce and held at high figures com pared with other brands, importers being indisposed to name quotations for shipment Quotations continue as follows for small lots: Coltness, \$22 @ \$22.50; Gartsherrie, \$21 to arrive, \$22 from yard Shotts, \$21.50 @ \$21.75 to arrive, \$22 from yard; Langloan, \$21.50 to arrive, \$22 from yard; Carnbroe and Glengarnock, \$20.50 to arrive, \$21.25 from yard, Summerlee, \$21 to arrive; Dalmellington, \$20 to arrive; Eglinton, \$19.25 @ \$19.50 to arrive; Clyde, \$20 to arrive.

inally \$18.50 @ \$19, but it is neglected. Some sales of Spiegeleisen, aggregating possibly 3000 tons, have taken place on private terms; 20 % quoted at \$26.75, and 30 % at \$31.

Bar Iron.-The demand for mill lots has been very dull, and reports are current of offers of Bars at lower prices than have yet been made, but there are conjectures as to quality under the circumstances. Store trade is still dull. Quotations are as follows: Best Refined, at mill, 1.7¢ @ 2¢; from store, 2¢ @ 2.2¢; Common Iron, at mill, 1.55¢ @ 1.7¢; from store, 1.9¢ @ 2¢.

Structural and Shaped Iron.—Apart

Iron and Steel Company, of Nashua, N. H., from the usual run of small orders, the only store, 2.4¢ @ 2.6¢: Tees, from store, 2.9¢ @ 3¢; Beams and Channels, on dock, 3.5¢.

Plates.-No increased movement in Iron Plates is noticeable, but the mills are evidently more in need of orders than was the case some time ago, as their representatives have been canvassing this market during the week. The demand for Steel Plates continues very good, some fair-sized orders having been placed during the week. Quotations for small lots of Iron Plates are as follows: Common or Tank, 21/4 @ 2.3¢; Refined, 2½¢; Shell, 2¾¢; Flange, 3¾¢; Extra Flange, 4¼¢ @ 4¼¢. For Steel Plates the quotations are: Tank, 33/4 @ 4#; Boiler, 41/4 @ 51/2#.

Sheet Iron.—The demand is reported fairly good, both for shipment from mill and for store lots. The local trade is improving, and the approach of fall weather is stimulating it. Prices range about as they have been. They will be found in our list of New York Wholesale Prices.

Merchant Steel .- Business is not up to the standard for the season, and there is general complaint of the dullness of trade. Prices are weak, and may be quoted about as follows: American Tool Steel, 91/2¢, with a concession to large buyers; Tool Steel of special grades and finer quality, from 12¢ to 20¢; Crucible Machinery, 5¢ @ 6¢; Spring, 3¢ @ 3¼¢; Open-hearth Machinery, 3¢ @ 3¼¢; Bessemer Machinery, 3¢; English Tool, 141/2¢ @ 151/2¢.

Steel Rails .- The transactions of the week have not amounted to over 10,000 tons, as far as can be ascertained. Inquiries are still in the market for good-sized blocks of Rails, but there is a decided disposition to advance prices, which may to some extent interfere with the placing of orders until it is now than they were several weeks ago, so far as work is concerned, and therefore it is low figures recently current. It is also understood that the chances of the formation of some kind of a combination among the manufacturers are very favorable, those who formerly opposed such an arrangement now being ardent advocates of it. The price talked of at Eastern mills is \$30, though it is intimated that possibly \$27 would still be accepted by some companies for a round lot, favorable delivery and prompt cash.

Steel Wire Rods.-While business shows no symptoms of recovery from its lethargy, prices are beginning to weaken, and we hear of quotations of \$46 and under.

Old Rails .- We have been unable to hear of any transactions. In the absence of actual sales, we continue to quote nominally \$17 @ \$18, according to the position of buyer and seller and quantity and quality of Rails.

Serap Iron .- While holders ask \$19 @ quieter than it has been for many years. Of Light Scrap several hundred tons were sold during the week, at prices ranging from \$12 P ton, delivered, to \$11.20 from yard.

The Charcoal Furnace at St. Ignace Mich.—The St. Ignace (Mich.) Republican comments vigorously on the Mathieu retort comments vigorously on the Mathieu retort plant at the Martel Furnace, as follows: "Though six were put in, in addition to the number theorist Mathieu said it would take to furnish the furnace with charcoal, it still required the constant burning of charcoal in the kilns up-the-line. There is not enough gas from the wood to alone keep the fires in the retorts going; the quality of coal is not as good as the kiln-burned coal; the great quantity of alcohol to be saved in the process of carbonization is a delusion, and the system. so perfect on paper, is a fraud materialized in brick, mortar and iron." The furnace has closed down after a four months' run, which was eminently satisfactory in regard to output, the cause of the cessation of operations being the low price of charcoal pig

Considerations of the practicability of an electric railway under Broadway are just now being indulged in to a great extent, and, while some are enthusiastic, others are more conservative in their views and point with evident satisfaction to the many plans of electric railways which were successful on paper, but failed in practice. Announcements of satisfactory results have, it is true, very often been premature, but at the same

seems now to be room for decidedly hopeful prospects as regards ultimate success. long as electric roads cannot earn money for their stockholders, their superiority over horse-car lines and the present elevated sys-tem in respect to convenience and comfort will be of little avail, but the moment their economy can be practically demonstrated a change may be expected.

TRADE PUBLICATIONS.

Steel Boiler Plate.

36,000 to 49,000 pounds per square inch, and a reduction of area from 45 to 63 per cent. The pamphlet closes with a list of references filling nearly three pages, which embraces mills, factories, iron works, railroad of all sizes.

Photo-Engraving.

The Photo-Engraving Company, of 67 to 71 Park Place, New York, have issued a couple of illustrated pamphlets showing specimens of the different styles of work done by them. The smaller pamphlet of the two contains numerous illustrations of machine pamphlet of the two contains numerous illustrations of machine pamphlet of the state of the sta chinery and tools, the cuts being of the kind that are engraved for illustrating price lists and circulars. The large pamphlet, which is very tastefully gotten up, presents illusrations of numerous subjects, which were reduced from drawings, woodcuts, steel engravings, &c. The plates prepared by the Photo-Engraving Company are mounted on blocks and for the province and some control of the province and some blocks ready for the printing press, and will last, they say, with ordinary usage for from 30,000 to 50,000 impressions. Ample evidence of the high quality of work done by this company is afforded by an inspection of the cuts presented in these pamphlets.

A California View.—A representative of the San Francisco Bulletin has had an interview with George T. Walker, of the Pacific Nail Company, in which the latter gentleman remarked: "Steel nails are drifting into use, and for some purposes will soon be used to the exclusion of iron nails, and, still in the market for good-sized blocks of Rails, but there is a decided disposition to advance prices, which may to some extent interfere with the placing of orders until it is absolutely certain that an advanced price will be maintained. The Steel-Rail companies are certainly in much better position now than they were several weeks ago, so lighter than it has been for five or six years, reasonable to suppose that they are not so laid in his stock of pig iron, and at prices anxious for orders as to take the extremely above those for which it could be obtained now. Pig iron of American manufacture here meets with serious competition from English and other European metal, which is brought over for ballast by ships coming for wheat cargoes. European iron formerly formed about 75 per cent. of the total amount used; but, owing to the establishment of new manufactories here, the proportion will now, probably, hardly exceed one-half. In a short time, it is thought, the Pacific coast furnaces will be able to produce all the priginger demanded by Pacific coast all the pig iron demanded by Pacific coast manufacturers."

Seeking to Lease the Brooklyn Bridge.—Austin Corbin, of New York, has written to the mayors of New York and Brooklyn, offering, in his own behalf, as well as in behalf of other parties who will join him in the lease, to the cities of New York and Brooklyn \$250,000 for the right to operate the railway passenger business over the East River Bridge for a term of 20 years, Scrap Iron.—While holders ask \$19 @ the East River Bridge for a term of 20 years, \$20 for No. 1 Wrought, buyers offer only \$18 @ \$18.50, and show no disposition to increase their bids. Business is therefore at increase their bids. Business is therefore at sets and also a bond in the penal sum of \$1,000,000, with sureties. penal sum of \$1,000,000, with sureties. Should a lease of the property be made to him, he will make it, he says, a part of the contract that no tolls for passengers or teams over the bridge shall ever be made in excess of those at present established by the bridge trustees.

> A Novel Tunneling Contrivance. mammoth hydraulic shield is being used in a sewer at Buffalo, N. Y., for the purpose of tunneling through a bed of sand which has been encountered. It consists of a circular steel plate II feet in diameter and 7 feet in length, inclosing 36 staves, front and rear, every alternate stave being hollowed out so as to admit a ram. The shield is driven forward by 18 hydraulic rams, the length of thrust being 25 inches. This allows the lay-ing of three bricks. The sewer is constructed inside the shield, and about 900 feet are to be built in this manner. The invention was perfected by John B. Benedict, of Cincinnati, who superintends its management in Buffalo. It has also been successfully used by him in his native city. The shield weighs 12,000 pounds, and was manufactured by Mackintosh, Hemphill & Co., of Pittsburgh, Pa. Its entire weight, including rams, is 8 tons.

The Huyett & Smith Manufacturing Company, of Detroit, Mich., patentees and sole manufacturers of the Smith exhaust fans, ventilator fans, and forge and pressure blowers, report that during the past nine months their sales had been much greater than for the same period in any preceding year, while for the first two weeks in Septime recent developments in systems of tember of this year their business had been electric propulsion have somewhat changed more than during the whole of the corres-

The Michael Coal Hoister.

A very efficient, newly-invented machine for hoisting coal and other bulky articles from boats and barges is thus described by the Pittsburgh Times :

Upon a small barge constructed of heavy timbers was placed a mast 36 feet in hight and so arranged as to turn in its socket by a chain and cog-wheel at the base. From the mast projected a heavy boom 16 feet in length, upon the outer end of which hung a pair of huga clam-shell scooper. The construction pair of huge clam-shell scoops. The operator on the barge pulled a little lever, there was a clanking, jerking sound, and the boom swung around and stopped just over a barge of coal that lay close by. The engineer touched another lever, and with a loud ratfrom the usual run of small orders, the only business of importance during the week in this line has been the awarding of contracts for additional elevated railway stations and the arrangements for the extension of the Grand Central Depot. These structures will use a considerable quantity of Iron in the aggregate. Quotations for small lots of Structural Iron are as follows: Angles, from store, 2.4\$ @ 2.6\$: Tees, from store, 2.9\$ Iron and Steel Company, of Nashua, N. H., swung around and stopped just over a barge of coal that lay close by. The engineer touched another lever, and with a loud ratting of chains the pair of accops dropped down into the coal. Their weight, 3200 pounds, forced the heavy steel teeth on the experiments is a table giving the results of some of the tests made upon Nashua steel boiler plate at the lay with jaws stretched 9 feet open, as if in a hungry attempt to grab a mouthful of coal. The engineer pulled another lever, there was another quick movement of the watertown Arsenal. In the experiments there was another quick movement of the store, 2.4\$ @ 2.6\$: Tees, from store, 2.9\$ tabulated the tensile strength per square inch varied between 58,000 and 68,000 slowly together, inclosing in their grasp a pounds, with an elastic limit ranging from small wagon load of coal. As soon as the teeth met the mass moved upward, stopping just high enough to clear the edge of the barge. The boom swung round until the scoops hung over another barge. Suddenly they opened, first a little, and a black stream of coal rained down, then wider and wider, companies, &c., besides boiler plate. The Nashua Iron Company are prepared to furnish iron and steel forgings in various forms for railroad and other use, and also shafting coal barge until the load of 40 bushels was deposited in the bottom of the barge along-side. In that time it had verformed two hours' work of two first-class laborers.

It takes 30 good shovelers to unload a

barge of 12,000 bushels in a day, and the cost is \$60, exclusive of the loss of about 10 cost is \$60, exclusive of the loss of about 10 per cent. by breaking good coal into slack. The Michael's patent hoister, operated by a single man, will do the work neatly in a day. The machines are to be put on the market by the Michael's Coal Hoisting Company, organized recently, with a capital stock of \$500,000. Capt. M. A. Michaels, the inventor, is president; W. F. McKelvy, secretary, and W. C. Jutte, treasurer. Among the directors are Dr. McKelvy, August Jutte, Wm. Ruhland and Morris P. Canfield. Some of the solidest men of the city are among of the solidest men of the city are among scribers to the stock, the par value the sub of which is \$50 a share. The office of the company is No. 118 Water street.

Auction Sale of Pig Iron.

The following sales of pig iron were made at auction in the Pittsburgh Chamber of Commerce on Tuesday of last week:

190	tons	s Etna No. 1 mill	0
175	60	Cleveland gray force 19	O
830	46	Shoenherger "	
496	6.6	Shoenberger 4	
104	6.6	Lemont No. 1 mill	
315	46	gray forge	
138	0.6		
0.095	66	Harleton neutral eman forms	
106	64	Hazleton neutral gray forge 12.	
319	64	Oliphant gray forge	
153	66	Crowther " 15. Cleveland " 12.	
100	66		
	84	Dunbar No. 1 mill	
228		Hazleton gray forge 15.	00
137	6.6	Marshall Bros. gray forge 15.	50
136	66	Lemont No. 1 mill	00
298	64	Oliphant gray forge 14.	ŌŒ
51	60	Marshall Bros. gray forge 15.	
155	9.6	St. Charles " 16.	
118	8.6	Gap " 16.	
200	66	Lemont No. 1 mill	
280	66	68 45 55	
		10.	

A New Departure.—The Blakeney Foundry and Machine Company, of Springfield, Ohio, have completed arrangements with Clark Sintz for the manufacture of his boilerfeeder for the next five years, subject to renewal for the term of the patent. The Sintz boiler-feeder is a steam pump, complete in itself, independent of motor power, always reliable, pumps hot or cold water, works without injury if the supply of water is exhausted, can be worked one double stroke a minute or 300 strokes a minute, is suitable for portable, traction or stationary boilers, can be attached to the boiler or placed independently of it, will pump from tank, cistern or well, whether pure or muddy water. The cost of this boiler-feeder is comparatively small. Several hundred of these feeders have been in suc cessful use on the engines of the Springfield Engine and Thresher Company the past year, and have been thoroughly tested in various parts of Ohio and Indiana. The works, making the fifteenth Blakeney cupola successfully placed in the foundries of Springfield. The above company are also building cupolas, to be shipped immediately, for Fay & Scott, Dexter, Me., and for the Eureka Mower Company, Utica, N. Y., and their orders for this cupola are now greater than at any time since the commencement of operations, 14 months since.

An association known by the name of the American and Foreign Industrial Development Association has been organized in New York in connection with the Joint Stock Association of London, England, for the purpose of establishing a reliable medium for the introduction of valuable American inventions in England and upon the Continent of Europe. All patents presented to the association will be received subject to ap proval as to validity and commercial value and where approved by the board of directors will be forwarded to the London association for negotiation. Arrangements are also nearly completed with similar associations in Paris, Brussels and Berlin, so that the American association are now prepared to nego-tiate for patents in England and on the Continent, and also, if desired, to make arrangements for the introduction of patented inventions in those countries. Among the American directors of the association are Prof. Benjamin Silliman, of Yale College, and Hon. H. H. Van Dyck, of New York. Any further information concerning this organization may be obtained by addressing the president, Mr. Henry Arthur Herbert, at 155 Temple Court, New York.

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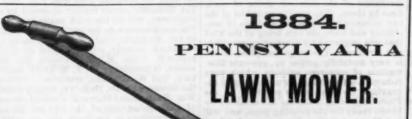


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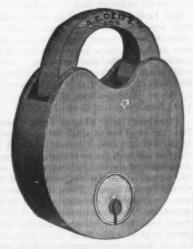
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fectly to the foot.

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South Walpole, Mas

English Letter.

(From Our Regular Correspondent.) LONDON, September 8, 1884. THE OUTLOOK

cannot be said to be anything like brilliant at the moment, but I think I am within safe limits when I state that it has undergone an appreciable improvement during the week. I have had far too much experience to feel quite sure about variations such as that now under notice, so that I am not to be under-stood to aver that we have taken a distinct new departure, but I venture to place it upon record that we are at length making sundry tentative movements in that direc-tion. I have little or no doubt that the better feeling which prevails has been generated by the results of the harvest, which results, broadly stated, bear out what has been so frequently stated in my letters. The results are better than the average and much above those of the past eight or ten years. The farmers are conferred with accordingly law prices. confronted with exceptionally low prices, but they have augmented quantities and superior quality to fall back upon; con-sequently, they are realizing, and money is beginning to move in channels from which it had been absent for years. This circulation of "the one thing needful" is already benefiting the retail traders in the rural districts, and these in their turn are making new demands upon the wholesale men and the demands upon the wholesale men and the manufacturers. From Birmingham, for instance, we hear of there having been "quite a rush" of orders for general hardwares during the past week or 10 days, and there are similarly encouraging accounts from Sheffield, Wolverhampton and other manufacturing centers. These are hopeful symptoms. They mean that the home market is being recuverated, and afford ground for believing that the long-wished-for im-provement is fairly afoot. Once the miscellaneous trades begin to show signs of anima tion, the heavier industries will follow in due course. The stampers, japanners, tinsmiths, ironmongers, &c., will need more iron and metals to replenish their stocks, and so the little lump will leaven the whole. The movement begins in the right and natural manner. It clearly comes from the bounteous products of the soil; consequently, the rural districts are manifesting the earliest tokens of recuperation. From them it should spread to the market towns, and thence to the producing centers. Then the landlords, &c. will come in for their shares, and so the cities, and especially the metropolis, will in the long run receive an impetus. This process of disrun receive an impetus. This process of dis-tribution, however, will not be accomplished all at once; indeed, in the natural course of things it must work itself out slowly and by its own means of evolution. Many of the larger farmers, for instance, will not thresh their wheat, &c., at present, owing to the exceedingly low prices now current, but will exceedingly low prices now current, but will hold it in reserve until values seem to them to have acquired a more settled basis. Besides this, the whole machinery of distribution is necessarily complicated; hence, those who expect to reap the full results of the harvest at once are certain to be greatly discovered. They must "reseases their seals appointed. They must "possess their souls in patience" and try to believe that the money is in the country and must sooner or later be realized and expended in a manner certain to benefit the manufactures of the certain to benefit the manufactures of the country. A word of caution may thus be in season to all parties. "Great expectations," as we all know, are frequently disappointed. "Blessed," therefore, "are they who expect nothing," for they shall not be disappointed. This axiom should be taken to heart on your cide, for I hear that there are some with your side, for I hear that there are some with you who are building their hopes upon the cours of our market. Your corn and wheat ar bound to be at a discount this year; conse quently, your farmers and exporters must suffer. Whether a rise in iron, &c., here would benefit you I do not profess to be able to foretell. Possibly such might be the case; anyway, I would advise all and sundry to "make haste slowly" on the sundry to "make haste al strength of that contingency.

THE IRON MARKET. Nothing vitally important has occurred during the past week. Consumers are con-tent to purchase sparingly, in the apparent belief that values might be made to reach a lower level than the present depression has yet witnessed; but it is hardly likely that this policy will avail them much longer. It would perhaps be unwise to conclude that this is the turning point so anxiously awaited by the ironmasters; but this much may be said—that the restarting of puddling fur-naces at Middlesboro' is an indication of an improvement, though, of course, too trivial in itself to generalize from. It is satisfactory to find, however, that in most of the great manufacturing towns the engineering shops, foundries and rolling mills are becomshops, foundries and rolling mills are becom-ing more busy, consequent on a steadier flow of orders. There are many exceptions to this rule, however, showing that the activity is still very partial and due perhaps to special causes; but for the moment at least better reports are in the ascendant. A good average business is doing in the Scotch iron market, but it falls far short of the measure that would induce speculation. Very little animation is observable in the warrant market, and the margin of fluctuation is still very narrow. The closing quotation was 41/6, compared with 41/4 a week ago. For a few special brands there is a brisk demand, but inferior grades attract only moderate attention. The United States still proves an attention. The United States still proves an indifferent customer, but Russia is ordering more freely, though on nothing like the scale attained immediately prior to the levying of the increased duty on pig iron. The foundries are consuming heavily, a large amount of work, chiefly of a miscellaneous nature being turned out. nature, being turned out At Middlesboro' the

the ironmasters have this doubtful if they can ever again take a cheerful view of their prospects, whether those prospects be good or bad. The combination among the pig makers is still in operation, but it is a curious anomaly that, while the members of "the ring" steadfastly quote No. 3 at 37/, that quality brand is obtainable from merchants at 36/. Refined Metal. 182/6 gray forge is quoted at the unprecedentedly

low figure of 34/. Manufacturers' price lists for Northern finished iron quote as follows: Bars, £5. 2/6 @ £5. 5/; angles, £4. 15/; ship plates, £5; sheets, £6. 15, less the usual 2½ \$. More favorable terms than these would, however, be obtained for good orders. orders. Stagnation still characterizes the hematite trade. Though the output of the West Coast has been reduced, stocks remain heavy. Bessemer rules as follows: No. 1, 46/; No. 2, 45/, and No. 3, 44/6 † ton, net, at works. The market at Wolverhampton continues to exhibit increased activity, and pig iron is said to be in good demand Sellers also seem less inclined to accept buyers' terms over delivery. Northampton brands command 42/, and certain classes of Derbyshire 42/6. For hematites there is more inquiry, Barrow qualities being quoted at 56/, and Blænavon hot-blast at 55/, delivered in South Staffordshire. Best thinsheet makers are well supplied with orders. "Severn" singles fetch £11, galvanized doubles from £7. 10/ to £7. 12/6, and trebles £1 extra. Best bars are nominal at £7 @ £7. 10/; medium, £6. 10/, and common, £5. 12/6. Scrap and old rails are still neglected, and no transactions are reported for the United States.

Freights are without material alteration Rates to Mediterranean ports, however, are slightly depressed, while for the Baltic they well maintained. Homeward rates are l, while those from America are again weaker. Edwardes, Robertson & Co., Cardiff, report: "As we mentioned in our report for July, outside tonnage was then offering freely, and a large quantity of cargo was shipped to the Northern ports at low rates. This continued during the early part of August also, but later on homeward rates collapsed, which caused the withdrawal of outside tonnage. This will, no doubt, account for the small quantity shipped this month in comparison with last. The rate, from 7/6 early in the month, has increased to 10/19 ton for New York, with a good quantity of cargo offering. The only transaction for the Southern ports is 1000 tons phosphate for New Orleans, for shipment in September, at 9/% ton, and at this rate, we think, tonnage is still obtainable for large

Makers of best crucible cast steel complain of a growing scarcity of orders, which leaves their employees with only an average of two or three days' work per week. For Besse-mer qualities there are most inquiries, but mer qualities there are most inquiries, but competition is too keen to allow of much profit on orders. Best sorts are in active demand, and at the larger forges and mills there is some briskness. The market for steel rails is very quiet, and quotations are unchanged. Operations at Bolckow, Vanghan & Co.'s have not been resumed yet, though the prospects of a restart are said to have considerably improved. At the North-Eastern Steel Works, where employ ment has been steady throughout the year,

ment has been steady throughout the year, orders are being rapidly worked off.

Tin plates are steady, but quiet, at about 15/3 @ 15/6 for ordinary I. C. cokes and 15/9 @ 16/ for the better sorts. Wasters are not quite so much sought after, and stand at about 14/@ 14/3 \$\mathbb{P}\$ box. The call for ternes is moderate only. American buyers are not quite so keen as they were a month ago, and the shipments are not up to the late average. The bulk of the American lots are now going from Swansea.

WAGES IN STAFFORDSHIRE.

movement initiated by the ironmasters of the South Staffordshire district for lower-ing the wages of their puddlers by 5 per cent. renders the following tubular state-ment interesting, as showing the fluctuations

١.	10	wages	dur	ing	a	per	lod	or	10	y€	a	re	1	00	ust	
r	186	8-Apr	1			7/6	18	76-	Ap	ril						8/
n	186	9-Nov			0	8/6	18	78-	Ja	n						8/
	187	1-Sept				9/0	18	78-	Oc	t						7/
0		1-Sept				9/6	18	79-	Jai	n. (9	146	11	b)		8/778
0	187	2-Feb			. 1	10/6	181	79-	De	e						8/
-	187	2—July			. 1	12/6	18	80-	Oct	b						7/
	187	3-Apr	d		. 1	13/8	18	81-	Jai	n						1/
İ		4-Jan				2/6	186	82-	Fel	b .						8/
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SCOTCH PIG IRON

is tolerably steady, all things considered, with a fair amount of business doing both in respect of warrants and special brands. Warrants do not vary to any appreciable extent; consequently, speculators' profits must be meager, but they are fairly upheld in value. At the same time, they are now nearly 6/ \$\partial{P}\$ ton lower than a year ago, when they were quoted at 47/2 \$\partial{P}\$ ton, as against 41/6 \$\partial{P}\$ ton at the present time. The monthly average prices this year have all been 5/ \$(a) 6/ below those of the same portions of 1283. It is to be noted, however, that the stocks in Connal's stores are now that the stocks in Connal's stores are now lower than they were a year ago, last week's decrease of 700 tons having brought the total to 585,212 tons, as against 585,813 tons this date 1883. The present total is 52,000 this date 1883. tons less than the maximum (637,526 tons) attained in June, 1882. There are now 95 furnaces at work in Scotland, as compare with 114 a year ago. Shipments to date are 68,065 tons behindhand, and the importations of Middlesboro' pig into Scotland have decreased by 5870 tons this year to date.

Current quotation	ns:		
Deliverable alon	aguido.	No. 1.	No. 4.
Gartsherrie, at Glas	gow		50/8
Coltness, "			51/6
Langloan, "	*********		51/6
Summerlee, "	********	. 50/6	47/8
CIMUEL.			48/8
Carnoroe,	**********		46/6
Clyue,			45/
Monkland, "	**********		40/6
Quarter, "	****** ***	. 42/	40/8
Govan, at Broomiel	AW	. 48/9	40/6
Shotts, at Leith		. 51/6	51/
Carron, at Grangem	outh	. 48/	47/6
" sp	ecially selected	1, 52/6	****
Kinneil, at Bo'ness		. 44/	48/
Glengarnock, at Ar	drossan		43/
Eglinton,	**		40/9
Dalmellington,	** ******	. 47/	43/
CLEVE	CLAND PEG IB	OW	

remains very flat indeed, and has been fur grown so accustomed to be despondent that it is doubtful if they can ever again take a the statistics showing the large increase of

Bolckow, Vaughan's rail mills at Eston are about to be partially restarted. HEMATITE PIG IRON

is decidedly dull at about late rates, the quoabout #4 \$\text{P}\$ ton for 20 \$\% \text{softs}\$ sorts. West Coast makers' brands of hematite pig iron are:

THE PARTY OF THE P	marino p	S won	cea co .
	No. 1.	No. 2.	No. 3.
Cleator	46/	46/	46/
Lonsdale	45/	44/6	44/
Workington	. 44/6	44/	43/6
West Cumberland	44/6	44/	43/6
Lowther	45/	44/	48/6
Distington	. 44/6	44/	43/6
Harrington	. 46/	45/	44/
Solway	44/6	44/3	44/
Maryport	44/6	44/	48/6
There are st furner		A 80	built on

hematites and one on spiegeleisen. Last week's shipments included 8719 tons of pig iron and 5667 tons of steel rails—the latter mostly for Canada and India.

INDUSTRIAL ITEMS.

MAINE.

Kelly & Libby have purchased the building and tools of the Biddeford Machine Works, at Biddeford, and will carry on the building of steam engines, both vertical and horizontal, from 4 to 40 horse-power. They also manufacture steam pumps, steam vacht engines, shafting, gearing, water-wheels, all kinds of tempered springs for cotton machinery and other light press work.

NEW HAMPSHIRE.

The new machine company which has been recently organized at Portsmouth will be known as the Portsmouth Machine Company, having a capital stock of \$130,000, with the following officers: President, Frank Jones; treasurer, C. H. Mendum; with Nathan Whalley as superintendent. They have erected new brick buildings on the grounds where the Kearsarge Mills formerly stood. The main building is of brick, 204 x 72, two stories. Their foundry is also of brick, 130 x 46, with railroad tracks running in yard. The power is furnished by Harris Corliss engines, 12 x 36. This company manufacture Tiffany's oil gas works pany manufacture thany's oil gas works and Critchley's expanding reamer, and ex-pect to do a large amount of jobbing in the marine line. Their shop is fitted up with the best tools possible for use in a machine no pains or expense having been

A new company has been formed at Manchester for the manufacture of the Hill grate bar, with the following officers: President, Ira Cross; treasurer and general manager, H. T. Hill; directors, H. T. Hill; O. W. Hill, E. S. Hill, Ira Cross and Col. C. H. Manning. This company will have a capital technical manager of the m H. Manning. This company will have a capital stock of \$50,000. The officers are all gentlemen of practical experience.

The Palmer Wire Company, of Palmer, have a night force at work for a few weeks on a special order of telegraph and telephone wire. They report business quite good, and they are to increase their capital \$50,000, making \$200,000 in all.

NEW YORK.

Work at the Gilbert Car Works, Troy, has been freshened up by an order for 17 coache and 50 freight cars.

A paragraph is going the rounds of the press, stating that the De Laney Forge and Iron Company, of Buffalo, will close their works, owing to a lack of orders. The company inform us that there is no truth in this report, but that, on the contrary, considering the very slack times, they are doing remarkably well in all departments, being, in fact fairly busy. fact, fairly busy.

NEW JERSEY.

Whitaker & Co., of Trenton, offer for sale their Star Chain Works, employing 150 hands, and having a trade of \$160,000 a year. The works are running, and a transfer could be obtained without stopping operations. Ill health is the cause of their desire

PENNSYLVANIA.

The new nail mill at Danville, which commenced operations about two months ago, is unable to supply the numerous orders which they are receiving. The hands have been placed on double time in order to keep up

The stockholders of the Lochiel Rolling Mill Company will hold a meeting on November 11 for the purpose of deciding whether a loan shall be created by bond and mortgage upon the buildings of the company in South Harrisburg. The object is to secure proceeds to be used in improving the blast furnace of the company.

The new foundry building of the Union Foundry and Machine Company, Catasauqua, has been completed, and already the company are turning out castings. It is complete in every respect.

The largest locomotives ever built by the Philadelphia and Reading Railroad Company are now in process of construction at the machine shops, Reading. The steel boilers and axles rest on wheels that weigh 1900 pounds, each axle weighing 1050. The en-gines will be used exclusively for the coalcarrying trade.

Considerable excitement was created at the works of the Hartman Steel Company, Beaver Falls, last week, by the presentation to the workmen of an iron-clad oath, binding them to have no further dealings with the Amalgamated Association. The men have recently been on a strike, which failed, and they had only been at work but a short time. The demand was withdrawn by the company and the men continued work.

It has been definitely stated by the anthro cite coal-producing companies that they will suspend mining for one week in October. There is no doubt that a further suspension will be needed, as there is a surplus of 900, 000 tons of anthracite coal at tidewater.

Florida Railway and Navigation Company. The ironwork, trucks, &c., will be made at Huntingdon, but the woodwork of the cars will all be done at Ellaville, Fla., on the line of the company's road.

Thomas Searles, general superintendent of the Pottstown Iron Company's nail factory ever since its first erection, has severed his connection with that company. Mr. Searles is interested in the new iron company of Ellis & Ludwig, and will hereafter devote his time to the superintending of the erection of the new works and the running of them when completed. The firm have decided to erect their works on the Fegley property, and the buildings have been staked off.— Reading Eagle.

The last of the machinery in the works of the Reading Tack Company, Reading, which was purchased by the combination controling the tack market, has been shipped away and the building has been closed. At one time the making of tacks promised to be-come one of the city's most flourishing in-

The Thomas Iron Company have blown in one of their furnaces at Alburtis, and are preparing to blow in the other

PITTSBURGH AND VICINITY. The large steel steam hammer and the ouddling department of Shoenberger & Co.'s mills resumed operations again on Septem ber 19, after a three weeks' close-down.

The depth of the Jones & Laughlins test gas well is now 1000 feet. The flow of gas is small and accompanied by salt water.

A fair showing of gas was struck at Chess Cook & Co,'s well on the Southside on September 18. The well is now down 1200 feet, and it is the intention of the owners to put it down 200 feet deeper.

The Atlas Works, Limited, of this city, have lately had quite a run on nail factory work. After putting in a train at Zug & Co.'s, Pittsburgh, they shipped a complete nail-factory plant to St. John's, N. F., and have now closed a contract for a nail factory at Pottstown, Pa., for Ellis & Lessig, consisting of a 22-inch nail-plate train and engine 28 x 36 inches, and the other machinery necessary for such plant. This mill will make steel nails if there is a demand for that class

The report that the Edgar Thomson Steel Company have notified their employees that unless they grant a concession in the matter of wages the works will be shut down on November 1 is incorrect. The employees of

stoves, ranges or castings of any kind from De Haven & Co., H. Anshutz & Co., Bissell & Co., and Crea, Graham & Co., in consequence of those firms refusing to recognize the union and employing non-union men to run their foundries. The union molders have now been on a strike for four months.

The Pittsburgh Forge and Iron Company are running double turn in all departments of their mill and have just completed their gas furnaces for the guide and bar mill. So far they have proved quite a success. The company are talking of putting an addition to their mill to work bridge iron.

An experiment of burning a kiln of bricks with natural gas has been successfully com-pleted by Councilman Mawhinney, of Pitts-burgh, at his brick yards, in the Fourteenth Ward. It was found that an even temperature could be obtained easily, a feature never accomplished by coal. This is the never accomplished by coal. This is the first experiment in this line with natural gas, and those interested in natural gas are highly elated over the outcome.

Gas-pipes have been placed in the furnaces of Thomas Wightman & Co.'s window-glass factory in the West End. The coal fire has been extinguished.

An item appeared in these columns in a recent issue to the effect that the Falcon Rolling Mill, of Niles, had been sold at sheriff's sale. was incorrect as to the mill, which was not the Falcon mill, but the old Ward mill. The Falcon Iron and Nail Company are in successful operation and in no danger of being sold out.

The Leetonia Tool Company, of Leetonia, save their creditors. Dull trade for time and costly patent machines for making tools seem to have caused the trouble. It has not been unlooked for. Liabilities about \$20,000; assets from \$20,000 to \$30,000.

A short time ago the West Shore Railroad Company sent out requisitions to the different engine builders, to which they had a full response, and, in the face of much lower prices, they have just placed their order for a 300-horse-power Cummer engine, which is to supply motive power for their large shops at Frankfort, N. Y. The Cummer Engine Company, whose works are at Cleveland, feel quite elated at receiving this order, as it comes in the wake of an order received from the Pennsylvania Railroad Company under similar condition and under just as severe competition. The engine for the latter company has just been shipped, and will be used in their extensive new works at Indianapolis, Ind. The Cummer Company have also just been favored with orders for a 170-horse-power engine, for the Hadley Cotton Mills, Holyoke, Mass.; a 130-horse-power engine with outfit complete, for the Upton Manu facturing Company, of Battle Creek, Mich. and two engines, 70 horse-power each, for the Citizens' Electric Light Company, Akron. Cummer engines have just been started at the Louisville Exposition, St. Louis Exposition and in the flouring mills of Cheesman & Driesbach, Touganoxie, Kan. The above company report work on the three large Ballantine refrigerating mathree large Danaus to the chines for Joseph Heusler, of Newark, N. J., progressing very rapidly, their orders still on the increase and a splendid outlook for future business.

Blaine Bros., of Huntingdon, have secured a contract for building 400 box cars for the Portsmouth, have just finished an addition been undertaken.

to their manufactory. The building is now 94 x 45, with an upper story 94 x 30. The upper story is to be used for the manufacture of an improved ice and roller skate, both of which they expect to have on the market in 30 days.

The nail factory of Brown, Bonnell & Co., at Youngstown, is again in operation.

The Akron Iron Company, of Akron, are operating 12 of their 20 puddling furnaces.

The Mahoning Valley Iron Company, of Youngstown, are running their mill double

It is rumored that the Otis Iron and Steel Company, of Cleveland, contemplate putting in a Bessemer plant. Inquiry at the office of the company failed to elicit any information on the subject.

Since their reorganization by New York and Pennsylvania capitalists, about a year and rennsylvania capitains, about a year ago, the Lake Shore Tube Works, of Cleveland, have made most substantial progress and are now one of the leading industries of the city. An important specialty in which they have had an extensive run is the construction of electric-light towers, which they build in sections, ready for shipment. They have lately constructed 80 of these towers for the Detroit Iron Tower Company, to be used in lighting the city of Detroit. These towers are from 104 to 150 feet in length, but all are to be changed immediately to 150 feet each. The Cleveland works have the contract with the Detroit company for 130 more towers, to be placed in Detroit, and also have an experience. also have an agreement to manufacture all of their towers to be used in this and foreign countries. As a consequence the works are kept busy night and day.—Iron Trade

WEST VIRGINIA.

The nailers of the Riverside Iron Works, Wheeling, in the past week cut 7564 kegs of steel nails, thus definitely settling the much-disputed question of whether as many steel as iron nails can be cut in a given time. This is the largest output ever made by any factory in the world, working 55 hours poweek, in making nails of standard weights.

ILLINOIS.

Ground has been leased in Chicago, and a new foundry having the capacity of about 100 tons daily will be erected. The company comprise a prominent machinery manufacturer of Chicago, a former owner of a foundry in that city, and two others.

The Crane Brothers Manufacturing Company, of Chicago, report their works busy in all departments, and especially so in the elevator branch. They now have orders on hand for a dozen elevators. In the steam-heater department they have largely in-creased their facilities for making radiators and coils, and report orders for 40 to 60 days ahead. The outlook, they say, is favorable for a brisk trade the remainder of the year.

Schmitz Bros. & Co., of Chicago, are adding a brass-finishing department to their works. They have also taken up in connection with their regular line of work the manufacture of dies and light machinery, and have enlarged the machine shop to 45 x

The foundations for the engine for John Mohr & Son's new works, Chicago, are being laid, and the machinery is expected to be in place in ten days. This firm will probably employ the Tweddle system of hydraulic riveting, the machine for this purpose costing about \$10,000.

The June Manufacturing Company, of Chicago, are at work on an order for 100,000 patent grindstone tool-holders.

More tools are to be added to the equip-ment of the O'Leary Steam Forge Works,

MISSOURI.

The first-mortgage bondholders of the Vul-can Iron Works, of South St. Louis, held a secret meeting on September 18, touching the foreclosure of their mortgage. Some time ago these works issued a million dollars of bonds at 7 per cent. interest, payable semi-annually. When the Vulcan Works were consolidated with large iron and coal interests under the name of the St. Louis Ore and Steel Company, the latter assumed these bonds. Part of the interest due on them last March was paid, but some of the coupons were not presented and the interest on them remains unpaid. Since that time the Ore and Steel Company have passed into the hands of a receiver, and, in the opinion of the bond owners, the company not being able to pey the overdue interest, they decided to firetime the mortgage and will take immediate steps with that view and buy in the works when they are sold.

The St. Louis Stamping Company are running their rolling mill double turn.

The Wrought Iron Range Company, of St. Louis, are turning out 70 of their "A" ranges a day, and notice an improvement in

The Southern Barb Wire Company, of St. Louis, took advantage of their shut-down to put in a considerable quantity of new and improved machinery, whereby their capacity is increased about one-third and the quality of their product still further improved -St Louis Age of Steel.

INDIANA.

The Dean Bros. Steam Pump Works, of Indianapolis, have just put in a large pump for the water supply of the Indiana State Insane Asylum. They have also furnished the Empire Distillery, at Chicago, and the Shelbyville (Ind.) Distillery with pumps and acuum apparatus for the new process of distilling.

The results of the Nijni-Novgorod fair are reported as unsatisfactory. The large stocks of goods accumulated at Moscow are not moving off, as the cost of transport is too high. The steamship companies on the Volga and the Kama do what is possible to diminish the cost of carriage, but the con-struction of the means of transport desired for the last 20 years by Russian trade, namely—a railway to Siberia—has not yet

Wholesale Hardware Prices, September 42, 1884.

HARDWARE.	9
A nvils. Eagle Anvils American. * b 10¢—dis 2 Wright's	SO % CO
A Eagle Anvils American W 109-Clis Wright's Mouse Hole 946 6 Armitage's Mouse Hole Extra 17renton 1 Wilkinson's Eagle Sold 1 Client Wilkinson's 1 Company 1 Client Sold 1	B B A U
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Advance. \$\P\$ doz \$5\$ Champion. \$\P\$ doz \$8\$ Family Bay State \$\P\$ doz \$12\$ Gem. \$\P\$ doz \$62\$.75 Sh .25 Re .00 Re
Gold Medal. # doz \$5.00—dls 1 Improved Bay State. # doz \$30 Improved Bay State, with push off. # doz \$33 Jersey. # doz \$3.50—dls 2	0 % .00 L4
Little Star.	.50 .00 .00 Ur
Rocking Table. # dos \$7. Triumph. # dos \$5. Turntable, Original. # dos \$5. Turntable Improved # dos \$6.	00 Sa 50 Ho 50 Pe
Waverly	50 W 50 Ca 75 Ca 00 Ca
Milers Falls Co., \$18.00	00 Ca Fa Fa Lo
Cook's, New Haven Copper Co. dis 50&16 Patent Solid Head. dis 36 Lewis' Patent Single Twist. dis 46 Russell Jennings' Angers and Etts of all kinds.	S Lo S Pa Ma
List of January 1, 1884	S Lo
Snell Mfg. Co.'s Jennings' Bits (old list)dis 50 Expansive Bits, Clark's small,\$13; large,\$36. dis 25&10 Expansive Bits, Ives' No. 4, per dox., \$60 dis 25&10 Expansive Bits, Blake's	Fai Fai Fai Loc
Expansive Bits, Derby, \$17 and \$26	Tal
Hollow Augers, Douglass'	g Loc g Bro g Spr g G
Hollow Augers, Universal Expan., each, \$4.50—dis 20 Wood's. dis 25 Gimlet Bits. \$7.50 \(\psi \) gross, dis 50 Gimlet Bits, Diamond, \(\psi \) dos. \$1.10, dis 25&10	GDDAG
Gimlet Bits, "Bee" dis 25 Double Cut Gimlet Bits, Shepardson's. dis 45 Double Cut Gimlet Bits, Ct. Valley Mfg. Codis 30&10 Double Cut Gimlet Bits, Hartwell's. dis 60	H U B
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Cast Steel	5 53	60
Curry Combs. Fitch's. Hotchkiss, Noveity, new list, July, 1880dis Hotchkiss, Excelsfor Supr. Championdis Rubber	&10 9314 3314 8 25	MMMM
Hotchikis, Excelsior Supr. Champion. dis Rubber	n	et et
Wostenholme	to ass	£ es
Learner	40 40 50 20	MM MM
Warner's No. 1, # doz, \$2.50; No. 2, \$3.50dis 406	£10	8
Gem (COII): Mo. 1, Large Japanned Mo. 2, Medium, Japanned Mo. 2, Medium, Japanned Mo. 2, 75 dis 504 Mo. 2, Medium, Japanned Mo. 2, 605 Georgia Mo. 2, 606 Mo. 3, 606 Mo. 4, 606 Mo. 4, 606 Mo. 4, 606 Mo. 5, Screen Door size Mo. 4, 606 Mo. 5, Screen Door size Mo. 4, 606 Mo. 5, Mo. 6, Medium Mo. 2, 75 Mo. 7, Medium Mo. 2, 75 Mo. 7, Medium Mo. 2, 75 Mo. 7, Mo.	di	8 4
No. 7, Large. \$\psi \ \delta \ \text{4.00} \ \text{Victor (Coll)}. \$\dis \ \text{50\text{2.10}} \ \dis \ \dis \ \text{50\text{2.10}} \ \dis \dis	10 10 35	PANK 1
Shaw Door Check and Spring. dis 25 @ 30 @ Drawing Knives dis 708 Douglass, Witherby, Arlington, &c. dis 708 Crossman's No. 1. dis 66 Merrill dis 66 Watrous. dis L. & I. J. White dis 50 Bradley 's. dis Adjustable Handle dis	OC CO	MMMM
Blacksmiths' Salf Fooding	20	XX XX
Breast, P. S. & W. Class Color	10 20 25 25	A M M M M
Ratchet, Whitney'sdia 908	10	2000
Whitney's Hand Drill, Plain, \$12.00; Adjustable \$12.00. dis 20& Wilson's Drill Stocks. dis	le, 10 1 10 1 20 1	uuu.
morse's Beach Patenteach, \$8.00, dis Morse's Adjustableeach, \$7.00, dis Danburyeach, \$8.00, dis	20 g 20 g 30 g	
# Jover # dos # do	2.50 50 x 16 x 16 x	
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& Riley CarrNew list, April 1, 1863, dis 1		DREER
dia 00 a 9	0 %	80 B
Fluting Machines. 1007, 49; inch Rolls. \$5.50 each { dis 3 age, 34; inch Rolls. \$4.00 each { dis 3 age, 34; inch Rolls. \$2.55, dis 3 age, 36; inch Roll. \$2.56, dis 3 age, 36; inch Roll. \$2.56, dis 3 rown, 49; in. §3.50 each, dis 3 rown, 49; in. §3.50 each, dis 3 dis 3 each d	0 %	8
agie, 94-ince zoul. rown, 45 in., 83.50: G-in., \$4.00; 8-in., \$6.50 each, dis 3 rown Jewel. merican, 5-in., \$3; 6-in., \$8.30; 7-in., \$6.50 each, dis 3 omestic Fluter. \$1.50 each, dis 3 rown Hand Fluter, White Metal.	set 5 g	RSPS
rown Hand Fluter, No. 1, 415; 3, \$12.50; 3, \$10.00; 468	OXXXXX	HMG
omblined Fluter and Sad Iron		SE E
Forks.		ORG
ay, Manure and Spading. dis 5 iated, A I, Rogers & Bro. die 50& lated, Holmes, Booth & Hayden's dis 50&1 iated, Holmes, Booth & Hayden's dis 50&1 Fruit and Jelly Presses. dis 50&1 Fruit and Jelly Presses. dis 50&1 Fry Pans urnished list as follows. dis 60&10& 0. 0 1 2 8 4 5 6 7	10	B
urnished list as follows dis 60&10& 0 0 0 0 1 2 8 6 0 7 dos. \$1.00 2.75 4.25 4.76 5.25 6.00 7.00 8.00 9 Auges. dis 50&17 Marking, Stanley's dis 55&17 light dis 10&10	00 %	COCE
Ire.	AM MM	BECCOHOOWW
Tire, Wheeler, Madden & Co. dis Gimlets. dis 50&10 Gimlets. dis 50&10 Eureka "Gimlets. dis 40&10 Diamond "Gimlets. dis 40&10 Diamond "Gimlets. dis 40&10 Diamond "Shepardson's. dis 40&10 Diamond "Douglass" dis 40&10 Unite Cut, Ives dis 40&10 Unite Cut, Douglass grown 13, dis 50 Gilne Pets. grown 13, dis 50 Dned and Knameled dis 56,235&25 Days 14, dis 15,235&25&25 Days 15,235&2	MMMM	P
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tirindatone Fixtures. tirgent's Patont	N.N.	Gi WHH H
ouble Cut, Douglass dis 4 Bee" F gross \$12, dis 2 Glue Pots	×	AI Cl Cl Cl
ey's B. E. \$2.00 ley's P. E. \$.00 lack Saws. Griffin's Hack Saws, complete. dis 40&10 iffin's Hack Saw, Blades only dis 20&10 ar Hack Saws and Blades. dis 25 dis 20&10	XX	Pi Vi No Gl
ar Hack Saws and Blades	N NN	A.C. Ch

	ptomboi		,	
1.5	Hammers. Maydole's	di	20@2	5
XXX	Hammers. Maydole's. Maydole's. Cheney's, new list, March, 1883. Hartford Hammer Co.'s Nail Hammers. Klp's. C. Hammond & Son. Humason & Beckley	dis 2	s 20&) 5@25& dis 3 lis 40&	10 5 5 5
X X				
MMMI	Humason & Beckley Verree. Magnetic Tack, Nos. 1, 2, 3, \$1, 25, 1, 60 and 1 Nelson Tool Works. Warner & Nobles. Verkes & Plumb. Wilkinson's Smiths Heavy Hammers and Sledges. Hand Cuffs and Log Leas.	d1	s 40&1 dis 1 dis 3	0 0
5	Wilkinson's Smiths'	11166	00&1	0
MMMA	Heavy Hammers and Sledges	doz loz	dis 1 dis 1 .dis 2	0 0 5
KNAN	Tower's. Handles. Door or Thumb Latches. Oc. 100 1.00 1.00 1.18 1.35 1.5 Eoggin's Latches. # dos. Jap'd Store Door Handles—Nuts, \$1.62; F no Plate, \$0.85.	0dh	8 60&1	0 ;
RNORA	Roggin's Latches	70¢ @	80¢ r	16
N. N.	Barn Door # dos. \$1.4 Wrought Chest	o, dia	10&10 dis 70	0 9
N SEN	Flush Chest	die	dfs 70 60&10 40&10	99
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X X	Brad Awl	12.50, 1088 1088	5.00	7 50
2	Apple Firmer Chisel, assorted	TO86 TO86	6.00 3.00	dle 40
5	Surface Chest. Lifting. Saw and Plane. Boynton's Loop Saw Handles. Brad Awl. Hickory Firmer Chisel, Large. # 16 Hickory Firmer Chisel, assorted. # 28 Apple Firmer Chisel, large. # 28 Apple Firmer Chisel, large. # 28 Apple Firmer Chisel, large. # 28 Cocket Firmer Chisel, assorted. # 28 Socket Firmer Chisel, assorted. # 28 File, assorted. # 27 File, assorted. # 28 File, assorted. # 27 File, assorted. # 28 File, assorted. # 38	75 \ 00 \ 00 \	dis 25&10	×
	Patent Auger, Ives'	set \$	dts 25 1.25 no 1.00 no	et et
	Patent Auger, Swan's. Hangers. Barn Door, Old patterns. Barn Door, New England. dis Climax (Anti-Friction). Zenith Anti-Friction Wood Track. Reed's Steel Arm. Challenge. "Hedina Mfg Co. \$15.00 Sterling Improved (Anti-Friction). Double Cut, Hartwell's. Victor, No. 1, \$15; No. 2, \$16.50; No. 3, \$18. Cheritree. Kidder's.	. dis	00&10 10&10	MM
	Climax (Anti-Friction)		dis 55 dis 40	NAMA
	"Champion" Medina Mfg Co	dis	50&10 65&10	AMMA
	Cheritree. Kidder's	di	is 3316 dis 50 50&10	MMMM
	Victor, No. 1, \$15; No. 2, \$16.50; No. 3, \$18. Cheritree. Kidder's. U. S. 4 in., \$19; 5 in., \$15 The "Boss" in., \$12; 354 in. Crouk. No. 4, \$12; No. 5, \$14.40; No. 6, \$1 Architect. \$\psi\$ act \$\psi\$ Eclipse Felix \$\psi\$ act \$\psi\$	dis dis s	80&10 50&10 dis 40	MMM
1	CronkNo. 4, \$12; No. 5, \$14.40; No. 5, \$1 Architect	8, dis 8.00, d di	50&5 dis 20 s 20&1	× × 0
	Hamilton Wrought w set a Harness Snaps.	1.00, 0	dis 50	N X
1	Harness Suaps. Anchor (T. & S. Mig Co.). Henshaw's, list of 1½ changed to \$14.00. Judd's, list of 1½ changed to \$14.00. Hotchkiss Anchor (T. & S. Mig Co.).		dia 65	***
1	fitch's (Bristol), list of 1% changed to \$14. Hotchkiss Andrews'	70.61	iis 10 iis 50	XXXX
000	Jerman, old list	dis 6	its 75 0&10	2 2 2 2
000	Hotchkiss Andrews' Sargent's Patent Guarded	dia	its 35 10&10 lis 50	200
I	fencely's Imp. German (Old German list). Hatchets. saiah Blood	dis 6	@ 40	6
	Harchets. saish Blood. Shingling, Nos. 1 2 3.	8.50 8.50 8.00	9.25 8.50	
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1 -	Turd's	8.50	40&5 5 \$0.00 10.00 9.00	8
7	Claw, Nos. 1 2 3	85 @ B	35&5 7 \$8.50	
U	Claw, Nos. 1 2 8 w doz 8.25 Lathing, Nos. 1 2 8 w doz 7.50 Republic Edge Tool Co	.00 d	9.25 8.50 is 40 s 88.75	
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C	Shingling-Nos. 123. W dos \$8.00 \$8	15 @ s	45&5 % 10.00	1
	Lathing, Nos. 128	1.50 1.00 1.50	9.99 9.50 16.00	1
8	Shingling, Nos. 0 1 2 3. # doz \$7.50 \$8.00 \$	8.50 (9.00	@ 35 % 19,00 9,50 9,00	
0	Broad, Nos. 5 6 7 8 9 dos 16.00 18.00 2	0.00 1	14,00 12,00 in 10 4	1
ſ.	Shingling, Nos. 123 # dox \$5.50 #6	.50	7.00 6.50	1
	eck's Champion Hade	.50	9.00	
	Claw, Nos. 1 2 3. # doz 9.00 9 Half, Nos. 1 2 8. # doz 8.00 8 Broad, Nos. 1 2 8. # doz 10.00 11 Broad, Nos. 4 5 6. # doz 14.50 16	.50 .00 1	0,00 9,00 8,00 8,00	I
A.	x Pattern, Nos. 123 \$\psi \text{dog} 10.00 11	.00 1	2.00	
		5 @ 3 #18.1	5&5 % 10 net	
GGGG	Hinges. te, Western.	10, di 00, di 00, di	8 55 % 8 55 %	
GGGG	ite, Clark's, Nos. 1 2 3	00, di 50, di	8 50 %	1
Gi	ite, Seymour's	lis 45 ds 50	&10 % &10 %	1
ReRe	olled Blind Hinges	is 50. is 60. in 60.	&10 % &10 % &10 %	1
PI Sc	ate Hinges (8, 10 & 13 in., \$5.55, \$100 b Providence" over 12 in., \$4.50 \$100 b rew Hook and (8, 10, 12 in., \$6.75 \$100 b	di	8 10 % 8 10 %	1
He	eavy Welded Hook 8 to 12 in., \$7.50 \(\psi\) 100 14 in. & up. \$6.50 \(\psi\) 100 100 100 100 100 100 100 100 100 10	1	net	1
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Clo Clo	ton (Humason & Beckley Mrg. Co.). the Line, Sargent's list	18 658 154:54 14:108	10 % 10 %	F
Dou Dou	it and Hat, Sargent's list	104 104 104	10 %]
Wi	re Coat and Hat, Miles'. ture Hooks, Brown's Pat. Solid Brass, & ross.	dis	70 % 25 %	G
V I W I	rose. seel and Picture (T. & S. Mfg. Co.). seel and Picture (T. & S. Mfg. Co.). ought Staples and Hooks & Staples. dis 75 ought Staples, Stanley's list. re Screw Hooks and Screw Eyes	&10g	50 % 80 % .dla	1
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ar	anac \$ \$ 26¢ 23¢ 21¢ 20¢ 19¢ 18¢	dis	25 %	OB

HARDWARE.	Braces. Q. S. Backus Barber's	dis 50&5 %	Cockeyes	dis 50.5	Cheney's, new list, March, 1883dis 20020	Horse Shoes. Burden
A nvils. A Eagle Anvils American. * b 10¢—dis 20 % Wright's 100¢— Hole	G. S. Backus. Barber's Sporfard's Patent. Ives' Patent Braces. Common Ball, American Amidon's. Bartholomest. No. 20, 20, 20	dis 50&5 %dis 55&10 %dis 55 %dis 50 %	Globe Plain Bibbs Ale and Beer Coffee Mills.		Hartford Hammer Co.'s Nail Hammersdis 25@25&5 & Kp's (Eh's dls 35 & dls 46 & dls	Horse Shoes. \$\pi\$ keg \$3.75 \(\epsilon\). 3.88 R. I. Horse Shoe Co., Perkins' Imp. Light, Medium and Heavy. \$\pi\$ keg \$3.75 \(\epsilon\). 3.89 Walker's Forged, Light, Med. or Heavy. \$\pi\$ keg \$3.75 \(\epsilon\). 3.89 Mule Shoes. \$\pi\$ keg \$4.75 \(\epsilon\). 4.89
A svils. A Esage's Mouse Hole. Wright's. Armitage Mouse Hole.	Common Ball, American Amidon's. Bartholomew's, Nos. 25, 27, 260. Bartholomew's, Nos. 117, 118, 119 Barker's Imp'd. Amidon's Corner Brace. Universal. Empire. Buffalo Ball.	dis 00 % dis 00 % dis 55 % dis 30&10 %	Board and Box		Warner & Nobles	Hose, Rubber, N. Y. Belting & Packing Co., Standarddis 50
Anvil Vise and Drill. Millers Falls Co., \$18.50	Empire. Buffalo Ball Brackets, Shelf, plain.	dis 30 % dis 40 %	Compassos		Wilkinson's Smiths' 1116 w n net Heavy Hammers and Siedges dis 80 @ 80 & 10 & Hand Cuffs and Log Irons . Providence Tool Co., Hand Cuffs, \$15.00 dos. dis 10 \$ Providence Tool Co., Leg Irons, \$25.00 dos. dis 10 \$ Providence Tool Co., Leg Irons, \$25.00 dos. dis 10 \$ }	Ce Awis, Chisels, &c. # doz \$5.00, dis 14 National Ice Chisel Pol'd # doz \$6.25, dis 24 Novelty Ice Breakers # doz \$6.25, dis 24 Novelty Ice Breakers # doz \$6.25, dis 24 White's Silding Head Picks # doz \$2.50, dis 40 Dunlap's Ring Picks # doz \$2.50, dis 40 Dunlap's Ring Picks # doz \$2.50, dis 50 Wood Head Picks, Sargent's # doz \$2.50, dis 50 Ice Mailets, Pick in head # doz \$1.25, dis 50 Ice Mailets, Pick in head # doz \$1.75, dis 15 Ice Mailets, Pick in handle # doz \$2.00, dis 15 Ice Axes, Small Cast or Maileable, # doz \$1.20, dis 10 Combination Ice Tools # doz \$2.00 n
Advance # doz 8,5,70 Champion # doz 8,25 Family Bay State # doz \$12.00 Gem # doz \$5,25 Gold Medal # doz \$5,04 Gold Medal # doz \$5,04	Brackets, Shelf, plain. Shelf, fancy. Reading, plain. Reading, Rosette. Bright Wire Goods.	dis 60&10 % dis 55&10&10 % dis 60&10&10 \$	Bemis & Cali Co.'s Divider Bemis & Cali Co.'s Compa Bemis & Call Co.'s Wing & Bemis & Call Co.'s Wing &	dis 60 % dis 60&5 % ases & Calipersdis 50&5 % Inside or Outside.dis 50&5 %	Providence Tool Co., Leg Irons, \$25.00 \(\mathbb{R} \) dozdis 10 \(\times \) Tower'sdis 25 \(\times \) Handles.—Door or Thumb Latches. Nos	Wood Head Picks, Sargent's \(\psi \) doz \$1.00, dis 50&10 Iron Head Picks, Sargent's \(\psi \) doz \$1.25, dis 50&10 Ice Mallets, Pick in head \(\psi \) doz \$1.75, dis 15 Ice Mallets, Pick in handle \(\psi \) doz \$2.00, dis 15
Improved Bay State. # doz \$30.00 Improved Bay State, with push off. # doz \$33.00 Jersey. # doz \$7.50—dis 25 % Little Star # doz \$6.50	Bright Wire Goods. List of June 25, 1883. Broilers.—Henis' Self-Basting. Inch. 9 Per dos. \$4.50	10 9 x 11	Bemis & Call Co, 's Call's I Excelsior		Per dox	Ice Axes, Small Cast or Malleable \(\psi \) dos \$1.20, dis 10
New Lightning # doz \$7.00 Oriole # doz \$7.50—dls 30 \$ Penn # doz \$6.50 Rocking Table # doz \$7.00	Bull Rings. Union Nut Co. Sargent's. Hotchkiss' low list. Humason, Beckley & Co.'s. Peck, Stow & W. Co.'s.	dis 55 %	Coopers' Tools. Bradley's. Barton's.	dis 10 ⊕ 20 ≴ dis 20 ≴ dis 20 &5 dis 20&5 § dis 25 5 %	Barn Door	lce Tongs. dis 55 lce Tongs. dis 25&10 Family dos \$6,00, dis 25&10 family dos \$2.75, dis 15
Triumph # dos \$5.50 Turntable, Original. # dos \$5.50 Turntable, Improved # dos \$6.50 Waverly # dos \$6.00—dis 10 \$ White Wountain # dos \$6.00—dis 10 \$	Humason, Beckley & Co.'s. Peck, Stow & W. Co.'s. Butts Wrought Brass	dia 70 %	Albertson Mfg. Co Corkscrews. Humsson & Beckley Mfg.	dis 25 %	Lifting. dis 60&10 % Saw and Plane. dis 40&10 % Boynton's Loop Saw Handles. 50¢, dis 50 % Boynton's Centennial Saw Handles. 30¢, dis 25 %	Kettles. Brass, 7 to 17 inches inclusive \$ \$ 284, dis 10 Brass larger than 17 inches \$ \$ 324, dis 10 Ensmeled and Tea Kettles See Hollow-Was
"1872" \$\psi\$ dos \$4.50" \\ "1876" \$\psi\$ dos \$5.75 \\ "1878" \$\psi\$ dos \$5.75 \\ \$7.878" \$\psi\$ dos \$7.00 \\ \$8.90 \$\psi\$ and \$8.55 \\ \$9.00 \$\psi\$ and \$9.50 \$\psi\$ dos \$7.00	Butts Brass. Wrought Brass. Clast Brass, Tiebout's. Cast Brass, Corbin's Fast Joint. Cast Brass, Loose Joint. Fast Joint, Narrow. Fast Joint, Broad.	dis 40 % dis 20&10 % dis 10&10 % dis 60&10 %	Corn Knives and C Bradley's. Wadsworth's.	Codis 38½ g dis 38½ 5 utters	Tower's dis 25 g	Kettle Ears. Eberhard Mig Co
First Quality. dis 60@00&10 % Cook's, Douglass Mfg. Co. dis 55 % Cook's, New Haven Copper Co. dis 50&10 % Patent Solid Head. dis 30 %	Fast Joint, Broad. Loose Joint, Japanned Loose Joint, Japanned with Acorns	dis 60&10 \$dis 70@70&10 \$dis 70@70&10 \$dis 70@70&10 \$dis 70@70&10 \$		# 3 5144 # 3 44 6 444	Apple Firmer Chisel, large	K nives. dis 25 K mives. dis 25 Ames' Butcher Knives. dis 26 Nichols' Butcher Knives. dis 16 Ames' Bread Knives. gis 16 Moran's Shoe and Bread Knives. dis 20 Hay and Straw Bee Hay Knive Table and Pocket. See Cutler
Russell Jennings' Augers and Bits of all kinds, List of January 1, 1884. dis 25 % Imitation Jennings' Bits (old list). dis 60 % Ivos' 'Jennings' Bits (old list). dis 50&10 %	Mayer's Hinges. Loose Pin, Acorns. Loose Pin, Acorns, Japanned. Loose Pin, Acorns, Japanned	dis 70@70&10 % dis 70@70&10 % dis 70@70&10 % dis 70@70&10 %	Hotchkiss, Noveity, new in Hotchkiss, Excelsior Supr. Rubber Curtain Pins,	tt, July, 1880dis 50&10 g tt, July, 1880dis 33\6 g Champlondis 33\6 g @ dos \$10.00, dis 20 g net	Auger, assorted \$\pi\ \pi\ \pi\ \text{gross} \ 5.00\) 25&10 \$\%\$ Auger, large \$\pi\ \pi\ \text{gross} \ 7.00\) 25&10 \$\%\$ Patent Auger, lougiass' \$\pi\ \text{set \$1.25 net} \text{prices}\$	Hay and Straw
Car Bits, New Haven Copper Codis 50&10 \$ Snell Mfg, Co.'s Jennings' Bits fold list)dis 50 \$ Expansive Bits, Clark's small \$181 \$ixree, \$280. dis 25&10 \$ Expansive Bits, Iyes' No. 4, per dos., \$600dis 25&10 \$	Fast Joint, Narrow dis 55. Fast Joint, Lt. Narrow dis 55. Fast Joint, Broad dis 55.	k10@55&10&10 % k10@55&10&10 % k10@55&10&10 %	Silvered Glass		Hangers. Barn Door, old patterns	Knobs. Garriage, Japanned
Expansive Bits, Blake's. \$40 - 418 40 5 Expansive Bits, Derby, \$17 and \$36	Table Butts, Back Flaps, &c dis 554 Inside Blind, Regular	%_@00#2%&10 % £10@55&10&10 % £10@55&10&10 % £10@55&10&10 %	Wostenholme. Dividers. Embossed Gilt.	#8.00 to £	Zenith Anti-Friction Wood Track. dis 55 % Reed's Steel Arm. dis 40 % Challenge. dis 50 % "Champion" Medina Mfg Co. \$15.00, dis 50&10 %	Door Por. Plated
Hollow Augers, Douglass' Adjust, w ds. \$48. dis 25&10 \$ Hollow Augers, Bonney's Adjust, w ds. \$48. dis 40&10 \$ Hollow Augers, Stearns' Adjust. w ds. \$48—dis 20&10 \$ Hollow Augers, I'ves' Expansive, each \$4.50—dis 40&10 \$	Loose Pin, Lightdia 55i Bronsed Wrought Butts. Spring Hinges: Geer's Spring and Blank Butts	10@55&10&10 g dis 40&5 g	LeatherBrass		Sterling Improved (Anti-Friction). dis 608210 % Double Cut, Hartwell's. dis 408210 % Victor, No. 1, \$15; No. 2, \$16.50; No. 3, \$18. dis 3314 % Theritree. dis 50 %	Hemacite Door Knobs, new list. dbs 88&5 Door Mineral. Door Por. Jap'd Door Por. Jap'd Door Por. Plated Door Por. Plated Door Por. Start Por Born Por Committee Plain 75¢ gross incn. dis 10 Furniture Plain 75¢ gross incn. dis 10 Furniture Wood Screws dis 25&10 Pleture, Undd's dis 60&10&10 Pleture, Sargent's dis 60&10 cl dis 35 Shutter, Porcelain dis 60&10 ft adds
Hollow Augers, Universal Expan, each, 84.09—dis 20 % Wood's	Union Spiral Spring, Japanned Union Spring Hinge Co.'s American Spring Hinge Co.'s Gem Spring Hinges Barker's Bounte Acting	dis 20 x dis 20 x dis 30 x dis 30 x dis 20 x	Bee Rod. Warner's No. 1, # dor, \$2.50 Gem (Codi): No. 1, Larre Japannod	# gro, #20.00, dis 20 % # gro, #30.00, dis 20 % # No. 2, #3.30dis 40&10 \$ 7 7	Fatent Auger, Swan's # set \$1.00 net Hangers Barn Door, old patterns. dis 60&10 g Barn Door, New England. dis 60&10 dis 60&10 dis 60&10 dis 60&10 dis 60 di	Addition
Double Cut Gimlet Bits, Shepardson's	Union Mfg. Co	dis 25 %	No. 2, Medium, Japanned. No. 3, Smail, Japanned Star (Coil)—For Cop'd, Nick No. 4, ("Shoo Fly") Screen	\$\psi\$ dos 2.75 dis 50&10 \$\frac{A}{2}\$ \$\psi\$ doz 2.00 \$\f	Architect	Eberhard Mfg. Co
Double Cut Gimlet Bits, Ives"	Acme. Climax Blind Butts, Parker. Blind Butts, Palmer. Blind Butts, Palmer.	dis 50&10 % dis 50&10 % dis 75&2 % dis 50&5&10 %	No. 5, Screen Door size No. 6, Medium No. 7, Large Victor (Coil)	# doz 2.00 dis # doz 2.75 60 % A # doz 4.00 B	Harness Suaps. nchor (T. & S. Mig Co.). dis 65 g ienhaw's, list of 1½ changed to \$14.00	Lanterns. Tubular, Standard No. 0, \$\psi\$ dos. Tubular, Standard No. 1, \$\psi\$ dos. Tubular, Standard No. 1, \$\psi\$ dos. Tubular, Lift Wire, No. 1, \$\psi\$ dos. Tubular, 2, \$\psi\$ dos. Tubular, 2, \$\psi\$ dos. Tubular, \$\psi\$ dos. Tu
Awi Hafts. Sewing, Brass Ferrule\$3.50 \(\pi\) gross—dis 40&10 \(\pi\) Patent Sewing, Short\$1.00 \(\pi\) dos—dis 40&10 \(\pi\) Patent Sewing, Long\$1.20 \(\pi\) dos.—net	Blind Butts, Lull & Porter. Blind Butts, Nicholson. Blind Butts, Huffer	dis 80&10 %dis 45&10 %dis 45&10 %dis 75&10&2 %	hiladelphia	, \$5.00; 8 in., \$7.75, dis 35 % H 8.00; No. 2, \$15.00, dis 50 % A \$\psi\$ dos \$2.25, dis 20&10 \(\) S dis 50 \(\) G	Totchkiss dis 10 Stanger dis 10 Stanger dis 50 Stanger Patent Guarded dis 70&10&10 Sterman old list dis 75 Stanger dis 7	Porter's Tin R. R., 410. dia 20; Owl. 90, dis 20; Lawn Mowers dis 30&5&3 @ -5
"1872"	Blind Butts, Manhattan Hardware Co Blind Butts, Sargent's, Nos. 1, 3 Blind Butts, Sargent's, No. 12 Blind Butts, Reading's Gravity.	dis 60% & 10 %dis 60% &	Drawing Knives. Ouglass, Witherby, Arling frossman's No. 1		Otchkiss	Lawn Mewers dis 30&5&3 — 5 Lemen Squeezers. Porcelain Lined # doz. \$6.00, dis 35&8.5 Wood # dez. \$6.00, dis 35&8.5 Eureka, Tinned # doz. \$6.00, dis 35.5 Eureka, Tinned # doz. \$7.5, dis 20.5 Dunlap's Improved # doz. \$7.5, dis 20.5 Sammis' No. 1, \$5 ; \$8; 13, \$18 # doz. dis 20.2 Townsend's Patent # doz. \$6.00 # doz. dis 320.5 Jennings' 'Star' # \$6.00 # doz. dis 320.5 The "Boss" # doz. \$6.00; 2, \$6.50 dis 55.5 Dean's Noz. 1, # doz. \$15.00; 2, \$6.00; 3, \$5.50 dis 55.5
Awis, Shouldered Feg.	45 and 55. Blind Butts, Shepard's "Gravity," 1 Oorth's Automatic Blind Fixtures, No.	os. 30, 60, 65, dis 70 \$ 1 os. 1, 3 and 1 dis 70&10 \$ 1	Vatrous	dis 20 % dis 20 % H	teneely's Pat. Sarety (Old German 1881) dis 00 % leneely's Imp. German (Old German 1881) dis 00 % I at chets. 1at chets. slab Blood dis 35 @ 40 % Shingling, Nos. 12 3 @ dos \$7.55 \$8.00 \$8.75 Claw. Nos. 12 3 @ dos 7.75 8.50 9.25 Lathing, Nos. 12 3 @ dos 7.50 8.00 8.00 km of the chets.	Sammis'No. 1, \$5; 2, \$0; 12, \$18 \(\pi \) 00s dis 202:10 \(\pi \) Townsend's Patent\$6.00 \(\pi \) dos dis 233/5 \(\pi \) Pennings' "Star"
Awls, Socket Scratcn	\$9; No. 3, for Brick, \$10.50. thepard's Lull & Porter Shutter Hinge thepard's Reversible Shutter Hinges Clark's Improved Shutter Hinge, Nos. 0	dis 70&10 % Idis 70&10 %	Brills and Drill Stock lacksmiths'. lacksmiths' Self-Feeding reast, P. S. & W.	Kseach, \$2.50, dis 20 \$each, \$7.50, dis 20 \$dis 20&10 \$	unt's35 \$	Lines.
Brad Sets, Stanley's Excelsior, No. 1, \$7.00. / Brad Sets, Stanley's Excelsior, No. 2, \$4.00. / dis 95&10 % Brad Sets, Stanley's Excelsior, No. 3, \$5.60. / Axes.—Best grades.	Butcher's Cleavers. lumason & Beckley Mfg. Co bradley's.	dia 90410 \$ 1	reast, Milson's. ireast, Millers Falls		urd's	Cotton Chalk. Silver Lake, Braided, Nos. 0, \$6.00; No. 1, \$6.50; No. 2, \$7.00; No. 3, \$7.50 W gross. \$7.00; No. 3, \$7.50 W gross. Masons' Linen, No. 3, \$1.50; No. 4, \$2; No. 4, \$2, No.
Axes.—Best grades. per dos \$5.75@\$7.85 Regular. per dos \$5.75@\$7.85 Double Steel, Bronzed. add 7.5 Triple Steel, Bronzed. add 1.00 Steel Pole, Bronzed. add 1.00 Full Polished add 6.0	\$16.50 19.00 21.50 34.00 27.00 30.00 few Haven Edge Tool Co.'s	7 8 88,50 26,50 dis 30&10 \$	atchet, Ingersoll's	dis 25 % dis 20&10 % dis 20 % dis 25 @ 50 %	Shingling, Nos. 1 2 3 7. # dox \$7.50 \$8.00 \$8.50 Claw Nos. 1 2 3 # dox 8.25 8.75 9.25	82.50 Net Masons' Colored Cotton Net Masons' Colored Cotton and Masons' Colored Cotton and Masons' Colored Cotton and Masons' Colored Cotton and Masons' Colored Cotton Co
Beveled	Can Openers. essenger's Comet. # do merican. # gros uplex. # doz 25	# \$3.00, dis 25 % V # \$3.00, dis 30 % A	\$12.00. Tilson's Drill Stocks utomatic Boring Tools Drill Chucks.	dis 20&10 % U	Lathing, Nos. 1 2 3.	Reading Hardware Co. (rev. list Jan. 2, '84). dis 60&10 \$\frac{9}{2}\] F. Many's "Extension Cylinder"\$10.60 \$\frac{9}{2}\] Barnes Mfg. Codis 40 \$\frac{9}{2}\]
Full Polished add 50 Beveled add 50 Regular, Bronzed Double Bit Axes. per dox \$12.00 Steel Pole, Bronzed add 1.00 Full Polished add 1.00 Develed Axie Grease. Keg # B, 5¢; Pall, # B, 6r et R Frascr's, in bulk France Frascr's, in bulk France Frascr's, in bulk France Fra	yman's.	z 33.75, dis 20 % m s 38.26, dis 56 % m s 48.00, dis 30 % D z 22.50, dis 10 %	orse's Beach Patent orse's Adjustable anbury	each, \$8.00, dis 20 5 each, \$7.00, dis 20 5 each, \$8.00, dis 30 %	athing, Solid Steel. Boston Pattern, \$18. dis 30 % No. 1, \$12. Boston Pattern, \$18. Hammond & Son. dis 45 @ 45&5 % Shingling-Nos. 1 2 3. \$\psi\$ dos \$8.00 \$8.50 \$9.00	Alle 40 % Clas
Axles.—Common. # 5, 359 8 Fine Axles	tar	5.00, dis 25&5 % 50.dis 50&10 % No. 2, \$24.00; dis 50&10 %	onroe's. ational. andard. amily (T. & S. Mfg. Co.).	♥ dos \$4.50, dis 3314 ≤ 31 ♥ gro, \$18.00, dis 25&5 ≤ 81	Lathing, Nos. 128. \$\psi\$ doz 8.00 8.50 9.99 Claw, Nos. 128. \$\psi\$ doz 8.50 9.09 9.50 Broad, Nos. 128. \$\psi\$ doz 11.00 13.60 16.00 mmons. \$\psi\$ hingling, Nos. 0 128. \$\psi\$ doz \$7.50 \$8.00 \$8.50 99.00	Flat Key Latches
Balances	Butcher's Cleavers. Iumason & Beckley Mg. Co. tradley's. leatty's.	8.00, dis 35&5 % A 88.50, dis 45 % T 88.00, dis 50 %	cme riumph (T. & S. Mfg. Co.(Emery. ogular numbers	₽ gro, \$12.00, dis 25 ≤	Claw, Nos. 0 1 2 3. \$\psi\$ dos 8.50 9.00 9.50 (Lathing, Nos. 0 1 2 3. \$\psi\$ dos 8.00 8.50 9.00 Broad, Nos. 1 2 3 4. \$\psi\$ dos 8.00 10.00 12.00 14.00 Broad, Nos. 5 6 7 8. \$\psi\$ dos 16.00 18.00 20.00 22.00	Control Cont
Hand, Globe (Cone's Patent)	icks & Goldmark's F. L. Waterproof, 1-10's E. R. Trimmed Edge, 1-10's E. B. Ground Edge, Central Fire, 1-10's Double Waterproof, 1-10's		Emery. egular numbers. lour and F. F. or Emery Paper and Cloth, Enameled and Tinnel are. Escutcheon Pins.		Illins dis 10 % white line is 10	'Feiter'' or "American". dis 40&10 % fagle Trunk dis 25&2 % PADLOCES.
Crank, Brooks dis 50&10&2 % Crank, Cone's	Pistol Waterproof, 1-10's. Musket Waterproof, 1-10's. G. D. & S. B.		Escutcheous. oor Lock	dissounts as Door Locks	sck" Champion Blade. dis 40&5 & 40&10 \$\frac{1}{8}\$ Shingting, Nos. 1 2 3. \$\psi\$ dos \$\frac{1}{8}\$ Oos. 2 8.00 \$\frac{1}{8}\$ So. 1 2 3. \$\psi\$ dos \$\frac{1}{8}\$ Oos. 1 2 3. \$\psi\$ dos \$\frac{1}{8}\$ Oos. 2 0.00 \$\frac{1}{8}\$ So. 1 0.00 \$\frac{1}{8}\$ Uathing, Nos. 1 2 3. \$\psi\$ dos \$0.00 \$\frac{1}{8}\$ Oos. 1 0.00 \$\frac{1}{8}\$ Uathing, Nos. 1 2 3. \$\psi\$ dos \$0.00 \$\frac{1}{8}\$ Oos. 0 8.00 \$\frac{1}{8}\$ Oos. 1 2 8. \$\psi\$ dos 10.00 \$\frac{1}{1}\$ Oos. 1 0.00 \$\frac{1}{8}\$ Uathing, Nos. 1 2 3. \$\psi\$ dos 10.00 \$\frac{1}{8}\$ Oos. 1 0.00	Nussell & Erwin
Lever, Taylor's Brohsed or Platedet E Lever, Taylor's Japanneddis 25&10 \$ U Lever, R E. M. Co. adis 50&10&2 \$ U Lever, Readingdis 25&10&10 \$ U Pull Brook'sdis 50&10&2 \$ U	19. D. & S. B. ley's E. B. ley's D. Waterproof, Central Fire M. C., F. C. trimmed	dis 15&10 x B	Aucets. Fenn's chren's Patent Rubber Ball an's Cork Stops.	dis 40 %	Broad, Nos. 1 2 3	air Lock Mrg. Co. 8.
Pull, Western dis 25&10 s Call dis 25 c Cow, Common Wrought dis 30&10 s M Cow, Cow, Common Wrought dis 30&10 s M	ouble Waterproof, in 1-10's	\$1.40 \ dis 10 \$ \$1.75¢ \ dis 334 \$ W	ar ary's Patent Petroleum est's Patent Key achor Lock	dis 55&10 \$\forall W\\\ \text{dis 40 @ 40&5 \$\forall \text{He}\\\ \text{dis 45 \$\forall \text{Ga}\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Hay Knives. Aghthing "	dimick & Brittan Mfg. Co. dis 45&2 % ⊕ Vm. Wilcox & Co. dis 40 % lorwich Lock Co. dis 20 & 2 lagle. dis 20 & 2 lagle. dis 20 & 2 korner's, Nos. 20 to 91. dis 40 % korner's, Nos. 20 to 505. dis 25 % Le. Diets. dis 25 % Star' dis 40 % raim & Bro. List of 1883-84 dis 16 % las 20 % dis 40 % condinavian dis 20 % laster dis 20 % laster dis 20 % laster dis 20 %
Cow, Western, Sargent's new list	Cartridges. imList of Jan. 1, 1884—d ontral Fire Cards. orse and Curry.	ts 50&10@30 x Cd dis 3314@40 x J.	ood. Fenn's hren's Patent Rubber Ball han's Cork Stops. ar. ary's Patent Petroleum. eat's Patent Key achor Lock. tallic Key, Leather Lined. rk Lined. Sommer's Best Block The & Sommer's Cork Lined, 1st Sommer's Diamond Lock.	dis 70 \$ Ga dis 70 \$ Ga (eydis 40& 10 \$ Ga qualitydis 50 \$ Ga	te, N. Y. State # doz \$5.00, dis 55 %	our-ounce bottles doz, \$1.75 : # gro, \$17.00 net
#12.00 10.00 9.66 8.00 7.00 5.00 3.50 2.50 5.05 418 70 \$ C. Cow, Texas Star. dis 50 \$ Bellows. Blacksmiths' Common. dis 50 \$ Blacksmiths' Extra Pittsburgh Pattern. dis 20 \$ C. Molders'. dis 30 \$ C. Wooders'.	orse and Curry	, 1583, dis 10 % 8e	if-Measuring, Enterprise	# dos #36.00—dis 30#10 % Ga:	te, Common Sense	Malleta. dis 10&10 \$ ignumvite. dis 10&10 \$ enfield Block Co., Lignumvite and Hickory. dis 30 \$
Molders	ool "Carpet Stretchers." # dos ust Steel, Polished. # dos ust Iron, Steel Points. # dos & eket. # dos Unrpet Sweepers. seell No. 5. seell No. 7 New Drop Pan assell No. 12 Hall Sweeper ystic.	\$2.50, dia 25 % J. dia 25 % J. Ho	if-Measuring, Victor Fellee Plates Files & Riley Carr Horse Raspe. as & Gimble les of domestic make. slier's Horse Hasps. hts Fluting Machines. hts, 45-inch Rolls. hts, 45-inch Rolls. gle, 34-inch Roll. gle, 54-inch Roll. own, 46-in, 85.00 d-in, \$5.00 own Jewel. herican, 6-in, \$5, 6-in, \$5.40 mestic Fluter.	ist, April 1, 1883, dis 15 % Ro 		#Meat Cuttors. 1 2 3 4 Meat Cuttors. 1 2 3 4 Stories (F. 8, W&.) Nos 1 2 3 0.00 - dis 40 5 Hes' Challenge
N. Y. Belting & Packing Co., Standarddis 50&10 % Bi N. Y. Belting & Packing Co., Extra Standard. dis 50 % Bi Bench Stops.—Hotchkins s w dox \$5.00—dis 10 % Weston'sper dox No. 1, \$10; No. 2, \$0—dis 25&10 % Co	ssell No. 7 New Drop Panssell No. 12 Hall Sweepersticstage	doz 119,00 He doz 142,00 St doz 117.00	blier's Horse Rasps Bluting Machines. Fluting Machines.	dis 30à10 % Scr dis 25 @ 30 % S	rew Hook and (8, 10, 12 in., \$6.75 \times 100 \times \)dis 10 \times \(irap	# dos. \$22.00 30.00 40.00—dis 40 \$ erry's.Nos. 1 3 3 4 4 g'rd 5 g'rd Each\$3.00 4.00 5.00 11.00 13.00 36.00—dis 25&5 \$ 7oodruff's (P. S. & W.)Nos. 100 150
Modders' dis 25 5 Hand Bellows dis 20 5 Helting, Rubber Standard dis 708.5 5 Extra dis 608.10 5 N. Y. Belting & Packing Co., Standard dis 508.10 5 N. Y. Belting & Packing Co., Extra Standard dis 508.10 5 N. Y. Belting & Packing Co., Extra Standard dis 508.10 5 Hench Steps Hotchkins's p dos 30.00 dis 10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$9 dis 258.10 5 McGill's per dos No. 1, \$10; No. 2, \$1	rette. rland leen leen, with band ng Casters.	# doz 116,00 Es # doz 118,00 Es # doz 130,00 Cr	gie, 34 inch Roll. gie, 54 inch Roll. own, 44 in., \$3.50; 6-in, \$4.00 own Jewel.		18. £ up, \$6.50 is 100 is 100 is	ales'Nos. 11 12 13 13 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16
Domestic	Casters. d. ate. allow Socket. ep Socket.	dis 50 @ 55 5 Ge	nerican, 5-in., \$3; 6-in., \$3.40 mestic Fluter neva Hand Fluter, White I own Hand Fluter, Nos. 1, \$1	; 7-1n., \$4.50 each, dis 35 % Riv \$0.00 each, net \$0.00	reted Shank.	Mos. 1 2 3 4 B Each
Blind Fasteners. ## dos pairs, \$1.00—dis 20&10 \$ Min Mackrell's. ## Van Sand's Screw Pattern. ## ## gro.—dis 20 \$ Washburu's Old Pattern. ## ## ## ## ## ## ## ## ## ## ## ## ##	allow Socket. ep Socket. ep Socket. id Casters, reduced list May, 1884d. rttin's Patent (Phosnix). yoon's Anti-friction. Lattle Leaders. mason, Beckley & Co.'s. gent's. (Chklas. that we we would be the social section of the section of the social section of the section of the social section of the section	dis 40&10 % Sh dis 50&10 % Sh Sh dis 70&10 % Ch	meva Hand Fluter, White lown Hand Fluter, Nos. 1, \$1 los. epard Hand Fluter, No. 85. epard Hand Fluter, No. 110 epard Hand Fluter, No. 96. ark's Hand Fluter	# dos #15, dis 40 g Ma # dos #8.75, dis 30 g Gru # dos #6.50, dis 20 g # dos #15.00, dis 3334 g " M	Content Cont	Each
Washbura's Old Pattern	rgent's. 4chklas. 6ck, Stow & W. Co Thain.	dis 80&10 % Bu	mbined Fluter and and Iro flating Scissors. Fluting Scissors. Fly Traps.	n \$\psi \text{dor \$15.00, \text{dis 30 \$\sigma\$} \text{"M} \\ \$\psi \text{dor \$10.00, \text{dis 10 \$\sigma\$} \text{Sto} \\ Eng \text{dor \$\sigma\$ net \$\text{Eng}\$	Goore's 'Differential Pulley Block. dls 30 % Edilaw-Ware. ve Hollow-Ware, Ground dls 60 % ameled and Tinned Hollow-Ware— ettles dls 50&10 @ 50&10&5 % val Bollers, Saucepans and Glue Pots dls 45 % y Enameled Ware dls 50&5 % stless Hollow-Ware dls 50&5 % vanised Tea Kettles—	teaer's Butcher
Blind Staples. Barbed, \$\foatin \text{an and larger}.	Chain. ace, 654-10-8.	tia 55@55&5 % Pla	orks. y, Manure and Spading ited, A 1, Rogers & Bro ted, Holmes, Booth & Hayo ruit and Jelly Presse	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	val Bollers, Saucepans and Glue Pots	eef Shavers (Enterprise Mfg. Co.)dis 20&10 % Mincing Knives. Mincing Kni
Reed Mrg. Co. SetrLabricating	rman Coil, me of Tine, 1881. glish Coil	7-16 .06 .054 En 7-16 Bu	raished list as follows. ry Pans. raished list as follows. 0 1 2 3 0s\$8.00 3.75 4.35 4.7 cme "		nch	Mincing Kulves. m. (2d quality). F gro, 1 blade, \$7; 2 blades, \$18; 2 blades, \$18. Net sthrop's. nith's. F dos, single, \$2.00; Double, \$3. dis 40 5 Molasses Gates. Molasses Gates.
Wrought Shutter, all Iron, Stanley's list dis 50&10 \$ Jac	k Chain, fron	din 45 % A m din 70 % G			d Cage, Reading. dis 40&10 % ston. W dos 84.00, dis 50 % ston Patented (N. Y. Mallet & Handle W'ks), dis 50 % Ston (Humason & Beckley Mfg. Co.). dis 50 % Ct	Molusses Gates. dis 70&10&2 ebbins Patterns. dis 70&10&2 ebbins Patterns. dis 675&10 gebbins Tinned Eads. dis 40&10 gases Hard Metal. dis 50&10 gases Hard Metal. dis 70&10 gases dis 70&10 gases dis 70&10 gases dis 70&10 gases di
Wrought Sautter, Brass knob, Stanley a 198. 188 208.19 \$ Wrought Sunk Flush, Sargent's	k Chain, Brass		rking, Chapin's		10 10 10 10 10 10 10 10	18h" 418 90 2 18h 90 2 18
Wrought Sunk Flush, Stanley's. dls 40&10 \$	ite Crayons balk Lines.—See Lines. hisels. ket Framing, Crossman	gro 1236e net "E "Do dis 85&5 s Do	ureka ' Gimletsiamond " Gimletsuble Cut, Shepardson'suble Cut, Ives'		t and Hat, Sargent's list. dis 60&10&10 % t and Hat, Reading. dis 40&10&10 % re Coat and Hat, Gem. dis 45 % re Coat and Hat, Miles'. dis 70 % Cu	\$7.00 8.00 8.00 10.00. w dos, das 00x10x10 \$ Talls
Carriage Philadelphia pattern dis 70420 strong participation of the part	k Chain, Brass. halk. d. d. d. d. d. d. d. d. d.	dis 70&10 Tin	re. Wheeler, Madden & Co. Jimlets. Il and Spike. ureka "Gimlets. Jamond "Gimlets. Jamond "Gimlets. Jamond "Gimlets. Jamond "Gimlets. Jamond "Jamond Jamond J	# gross \$12, dis 25 \$ gr dis 25@35&5 \$ Wro	the Line, Sargent's list. See Beach Stops these Line, Reading list. dis 65&10 % Both Stops Lid in See Line, Reading list. dis 65&10 % Both See Lid in S	ant, No. 1. # dos \$80.00 net Nuts and Washers. Lots fees than 100 b, # b add ½# to list; 1 b louses, 1# to list. De off list xagon. 5½# off list sahers. 5½# off list
Tire, R. B. & W., 5-16 and M. Philadelphia list. dis 70 % Stove — American Screw Co. 5. dis 00 % Stove, R. B. & W. dis 00 % Stove, R. & E. Mfg. Co dis 573/4 @ 60 % Book Plow	ket Corner. ket Framing and Firmer, Buck Bros. ket Framing and Firmer, Curtiss. ket Framing and Firmer, Herrili.	dis 30 g G G G G G G G G G G G G G G G G G G	gent's Patent	dis 70atio 5 Wh	Imtree—Patent	exagon 94 off list exagon 940 off list ashers 940 off list Nut Crackers 1800 off list Nut Crackers 1800 off list
Plow, R. B. & W dis 50 \$ Tar wachine dis 75&5 @ 75&10 \$ Tar Horax lide 3	ged Firmers. Butcher's. di aged Firmers, Butcher's. aged Firmers, Spear & Jackson's. aged Firmers, Buck Bros.	45 @ 45&5 g U. \$4.75 @ \$5.00 U. \$5.00 to & U. dia 30 g U.	ding Hardware Co. 'un Wads. M. C. R. E., 11 up. M. C. B. E., 9&10. M. C. B. E., 7&8. M. C. P. E., 9&10. M. C. P. S., 7&8. M. C. P. S., 8. M. C. M. C. S., 8. M. C. S. S. S. S. M. C. S. S. S. S. M. C. S. M. C. S. S. M. C.	2.00 H 2.00 Aus 3.10 die 5.05 d Clin	Nos. 5 6 7 8 9 10 Nos. 5 6 10	Nut Crackers. ble (Humason & Beckley Mfg. Co.). dis 38% sake's Pattern. w dos 88.00, dis 58 surer & Seymour Mfg. Co. ak nu. —Dis on 100 bales and over, 1/4 x w n. Best. 8. Navy. 9 8 8
First quality, no Augers	tamps. n. Providence Tool Co.'s Wrought Iron n. Adjustable, Gray's. n. Adjustable, Lambert's. o. Adjustable, Ranow's.	dis 25 % U. dis 20 % Ele dis 20 % Ele	M. C. P. B., 9810 W. C. P. L., 788 y's B. E	4.90 Clin Ease Put: 3.00 Vulk	THE THE P B 384 284 294 284 284 284 284 485 485 105 28 284 284 284 284 284 284 284 485 485 285 285 285 285 285 285 285 285 285 2	Dilers.
Saunders' Pat., Reg. Bed. 6.00 dis 20 % Iroi Saunders Pat. Extra Bed. 6.50 dis 20 % Iroi Hubbard's 2.50 2.00 Net Iroi Bew Pins	n, Adjustable, Hammer's n, Adjustable, Stearns' n, Cabinet, Bargent's n, Carriage Makers', Sargent's di	dis 15 \$dis 20&10 \$ Gridis 70&10 \$ Sta 65&10&10 \$ F	Griffin's Hack Saws, com fin's Hack Saw, Blades only r Hack Saws and Blades (alters.	pletedis 40&10 s Gloidis 20&10 s A. C	Sks and Eyes—Brass. — dis 606:10 % Table or en Naile. — 8 9 10 606:10 % Table or en Naile. — 8 9 10 606:10 % Table or en Naile. — 8 316 886 886 886 686: dis 256:10 % from Pin. — 8 316 886 886 886 686 685:10 % from Pin. — 8 346 886 886 196 196 186 685:10 % from Pin. — 8 346 886 816 306 196 196 68 556:10 % ex. — 9 316 286 296 296 296 196 68 685 587 % can — 9 3 66 286 286 296 196 196 68 686 886 886 886 886 886 886 886 88	ne and Tin
B. & W. Carriage of list	in spermard Mrg. Co. r Clamps lips, Axle. way or Best	See Vises Covdis 60&10 g Mei	ert's Hemp Horse and Catte ert's Jute Horse and Cattle acely's Pat. Rope and Web. acely's Horse and Cattle Tie	le Ties	Igewater \$\psi\$ 264 264 264 265 264 265 416 10 \$\psi\$ Prigewater \$\psi\$ 264 234 214 296 184 174 186 416 25 \$\psi\$ Oli anac. \$\psi\$ 264 234 214 206 194 184 416 125 \$\psi\$ Oli mpion. \$\psi\$ 364 254 254 224 224 204 206 416 1046 \$\psi\$ Privalle \$\psi\$ 314 334 364 254 246 254 416 254 416 416 \$\psi\$ Privalle \$\psi\$ 314 334 364 254 246 254 416 416 416 \$\psi\$ Privalle \$\psi\$ 314 334 364 254 246 254 416 416 416 416 416 416 416 416 416 41	matead's Tin and Zinc
		*				

September 25, 1884.	T	HE
Packing, Steam. N. Y. Beiting & Packing Codis 20 %	Sausage Stuffers or Fillers. Miles' "Challenge"	Tacks, New 1
Peach Parers	Miles' "Challenge" # doz, \$20, dis 40 % Perry # doz. No. 15 : No. 0, \$21, dis 25±10 % Draw Cut No. 4	Tinned Swe Tinned Am Swedes Tac American C Copper Tac Swedes Hu
Pencils. high list, dis 50 % Faber's Carpenters' # gro \$5.25 net Dixon's Lead # gro \$4.50 net Dixon's Lumber # gro \$4.50 net Dixon's Carpenters' dis 40&10 %	Saws. Disston's Circular, Mill and Cross Cut	Gimp and I Gimp and I Finishing I Trunk and
Picks: Railroad, 5 to 6, \$11.00; 6 to 7, \$12. dis 60&5 @ 60&10 \$ Adve Eve 5 to 6, \$12.00; 6 to 7, \$13. dis 60&5 @ 60&10 \$	Boynton's Circular and Mill. dis 40 % Boynton's Ice, dis 25 % Boynton's Lightning Hand, Panel and Rip. dis 25 % Wheeler, Madden & Clemson Mfg. Co.'s Hand. dis 30 %	Common as Basket Nas Brush Taci
Picture Nails. Brass Head, Sargent's list	W. M. & C. Champion X Cuts, Regular ** foot 20¢ W. M. & C. X Cuts, Thin Back ** foot 29¢ Livingston's Butcher and Kitchen	Leathered Cigar Box Chair Nails Double-poi
Picture Nalis. Brass Head, Sargent's list	Nos	Common a Ives' Tap E Ives' Tap E Enterprise
Pinking Irons	Simond's Crescent-Ground Cross Cuts, patent December 9, 1882 Peace Circular and Mill dis 25 Peace Circular and Mill dis 45 & 10 Peace Hand Panel and Rip dis 20 & 10 Peace Cross Cuts, Standard	Clark's Tapes, American.
dis 15&10 % Molding	Peace Cross Cuts, Thin Back. \$\P\$ foot 29\epsilon\$ Peace Band Saws, all widths. dis 20\epsilon 10 8 Richardson's Circular dis 45 % Richardson's Mill dis 45 %	Spring Chesterma Thermo Tin Case Transo
Halley's Victor 1,500 @ \$5.25 to & Plane Irons, Butcher's	Richardson's Cross-Cuts, No. 1, 31#: No. 2, 28#; No. 3, 28#; No. 3, 28#; Richardson's Hand Panel, Butcher and Web Saws. dis 25#5 5 Barry's Circular	Wollensak Reiher, Im Excelsion.
Iron dis 20&10	Barry's Circular	Enterprise Wood Bott All Iron Nashua Lo
Plane irons. Sandusky Tool Co. dis 20±10 g Pliers and Nippers. dis 33½ g Button's Patent. dis 33½ g Hall's Pat. Compand Lever Cutting Nippers. No. 2, 6 dis 20±10 g Gamma Sandusky Company dis 20±10 g Gumanon dis 20±10 g Gureka Pilers and Nippers dis 40 g Russell's Parallel dis 50 g P. 8. & W. Cast Steel dis 50 g P. 8. & W. Tinners' Cutting Nippers add 6 g dis 10 g Planuke and Levels dis 20 g	DEST ANDRESS	Wilson's
5 in., \$13.00; NO. 2, Int., \$2.00 dis \$0&10 % Humason & Beckley Mfg. Cc dis \$0.810 % Gas Pilers dis 40 % dis 25 % dis 40 % dis 25	Boynton's Patent X Cut, w dos \$12.00; Hand Saw,	Machines (Tools (P. 8.
Russell's Paraitel	Leach's. No. 0, \$8.00; No. 1, \$15.00, dis 40e.5 \\ Nash's. dis 20\\(\text{d}\)1 S \\ Hammer, Hotehkiss. \$5.50, dis 10 \\ Hammer, Hotehkiss	Game, New Game, One Game, Blai Mouse, Wo
Disston's. & L. Co. & Pat. Adjustable dis 65&10&10 { Stanley R. & L. Co. * Non-Adjustable dis 65&10&10 { Stanley R. & L. Co. * Non-Adjustable dis 65&10&10 { Chapin's Patent Adjustable dis 65&10 { Chapin's Patent Adjustable dis 65&1	Hammer, Bemis & Call Co.'s Lever and Spring Hammer. dis 30&5 \$\frac{1}{2}\$ Bemis & Call Co.'s Lever and Spring Hammer. dis 10 \$\frac{1}{2}\$ Bemis & Call Co.'s Plate. dis 10 \$\frac{1}{2}\$	Mouse, Wo Mouse, Ro Mouse Cag Mouse Cat Mouse "Be
Plumbe and Levels. dis 45&10 5 Diston's	Saw Sets. Boynton's Patent X Cut, \(\psi \) dos \(\frac{1}{2} \).00; Hand Saw, \(\psi \) dos \(\frac{1}{2} \).00 \(1	Mouse, Del Rat, "Deco Trowel Lothrops' I Reed's Brid
Pocket Levels	Morrill's	Disston's B Peace's Pl Clement & Rose's Brid
Post Hole and Tree Augers. Samson Post Hole Digger \$\psi\$ dos \$36.00, \dis 20\&10 \times \text{Fletcher Post Hole Augers.} \psi\$ dos \$80.00, \dis 20 \times \text{Eureks Diggers.} \psi\$ \$\psi\$ dos \$27 \text{Eureks Diggers.} \psi\$ \$\psi\$ dos \$27 \text{Leed's.} \text{Euch \$\psi\$.00 \text{Valued's.}} \text{Us dos \$\psi \text{Valued's.}} \text{Valued's.} \text{Valued \$\psi\$.00 \text{Valued's.}} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \text{Valued's.} \q	Scales Hatch, Counter, No. 171. \$\psi\$ dos \$\frac{1}{2}\$42.00, dis 40&10 \$\frac{1}{2}\$ Hatch, Tea, No. 161. \$\psi\$ dos \$\frac{1}{2}\$15.00, dis 40&210 \$\frac{1}{2}\$ Union Platform. \$\psi\$.00, dis 50 \$\frac{1}{2}\$ Chatillon's Grocers dis 40 \$\frac{1}{2}\$ Chatillon's Eureks dis 20 \$\frac{1}{2}\$ Chatillon's Family Favorite. dis 20 \$\frac{1}{2}\$ Chatillon's Family Favorite. dis 20 \$\frac{1}{2}\$ Chatillon's Family Favorite. dis 20 \$\frac{1}{2}\$ dis 50 \$\frac{1}{2}\$ dis 55 \$\pi\$ 60 \$\pi\$ Scale beams, List of January 12, 1882. dis 55 \$\pi\$ 60 \$\pi\$	Brade's Bri Worrall's I Garden Triers.
6 in., \$33.60; 7, 8 and 9 in., \$25.00 \$\psi\$ dos, dis 30&10 \$\frac{1}{2}\$. Kohler's Little Giant	Chatilion's Family Favorite. dis 30 % Family Universal # dos, 12 B, \$30.00; 24 B, \$36.00, net Family, Turnbull's. dis 30 % Scale Beams, List of Japany, 12, 1829, dis 50, 26 %	Butter and Truck - Penfield B Twine.
Kohler's Little Giant. Potate Parers. White Mountain	Scale Beams, List of January 12, 1882dis 50 @ 50 % Scrapers. Adjustable Box Scraper (S. R. & L. Co.).\$6.50, dis 20&10 % Box, 1 Handle	
Dission's Combined Pruning Hook and law. 4.03 18.10 18.20 19.10 19	Adjustable Box Scraper (S. R. & L. Co.) \$6.50, dis 20&10 5 Box, 1 Handle \$\psi_{0.0}\$ dos \$4.00, dis 10 5 Box, 2 Handle \$\psi_{0.0}\$ dos \$0.00, dis 10 5 Box, 2 Handle \$\psi_{0.0}\$ dos \$0.00, dis 10 5 Box, 3 Handle \$\psi_{0.0}\$ dos \$0.00, dis 10 5 Box, 3 Handle \$\psi_{0.0}\$ dos \$0.00 dis 50.00 \$\psi_{0.0}\$ dos \$0.00 dis 50.00 \$\psi_{0.0}\$ dos \$0.50 net Ship, Frovidence Tool Co. \$\psi_{0.0}\$ dis 10 \$\psi_{0.0}\$	Chalk Line Mason Lin 2-Ply Hem 3-Ply "
Fruiting Spears	Ship, Providence Tool Co	2, 3, 4, and
Duniap's Saw and Chiscotter Puller's Hot House, Awning, &c	Screw Drivers.	Tines.
Japanned Side	Douglas Mfg Co. dis 90&10&10 5 Disston's No. dis 40 \$ 5 Disston's Patent Excelsion dis 40 \$ 5 Disston's Patent Excelsion dis 40 \$ 6 Disston's Patent Excelsion dis 40 \$ 6 Disston's Patent Excelsion dis 20 \$ 6 Disston's Patent Excelsion dis 20 \$ 6 Disston's Patent Excelsion dis 20 \$ 0 Disston's Patent Excelsion dis 50 Disston's Patent Excelsion dis 50 Disston's Patent dis 90 Disston's Patent disson's P	THE
Hay Fork, "F" Common and Pat. Busned	Sargent & Co. % Nos. 1 & 20, Forged Bladedls 009841	
Cistern dis Pitcher Spout dis	Crawford's Adjustabledis 30 \$	M
Yard and Set Length: Punches Saddlers' or Drive \(\psi \) dos \(\psi \). 2.50; 2.50 dis 55 \(\psi \) Saddlers' or Drive \(\psi \) dos \(\psi \). dis 50.5 \(\psi \) Bemis \(\psi \) Call Co. 's Cast Steel Drive dis 50.85 \(\psi \) Bemis \(\psi \) Call Co. 's Springfield Socket dis 50.85 \(\psi \) Spring \(\psi \) dos \(\psi \). dis 56 \(\psi \) Spring. Leach's Patent \(\psi \) dos \(\psi \). dis 15 \(\psi \) Bomis \(\psi \) call Co. 's Spring and Check \(\psi \) dos \(\psi \). \(\psi \) dos \(\psi \). \(\psi \) dos \(\psi \).	Flat Head Iron. dis 7 Round Head Iron dis 70 % Flat Head Brass dis 75 % Round Head Brass dis 65 %	THE
Bernis & Call Co.'s Spring and Check	Brass and Silver Capped	1111
Rail Sliding Door, Wrought Brass \$ \$ 85¢, dis 20 \$ 81dding Door, Bronsed Wrt. Iron \$ 5001 24¢, dis 40&5 \$ 81dding Door, Bronsed Wrt. Iron \$ 6001 44¢, dis 20&10 \$	Bed dia 8344 \(\) Machine, Flat Head, Iron	1
R	Screws	In o
Per 100 feet \$2.15 2.70 3.25 net Terry's Wrought Iron, 5¢ ¥ foot net Rakes.	Hand Rail, Humason, Beckley & Co.'sdis 70 % Hand Rail, Am. Screw Codis 70 % Screll Saws.	brands a
Hakes	Lester, \$15.00 dis 25 ≤ Rogers, \$6.50 dis 25 ≤ Scythes dis 25 ≤ Shears and Scissors dis 25 ≤	C.
Wostenholme & Butcher Razer Strops. dis 45@50 % Genuine Emerson. dis 33% % Badger's (not Emerson). dis 20&10 % Institation Emerson. \$\psi\$ dos \$2.00. dis 20&10 % Torrey's. dis 20 %	Shears and Scissors American (Cast Iren dis 75 x Pruning Hooks and Shears Barnard's Lamp Trimmers \$\psi\$ dots \$8.75 \text{Tinners'} \$\psi\$ dots \$8.75 \text{Tinners'} \$\psi\$ dots \$6.15 \text{Tinners'} \$\psi\$ dots \$6.25 \text{Tinners'} \$\psi\$ dots \$6.25 \text{Tinners'} \$\psi\$ dots \$7.25 Ti	11/2
Imitation Emerson. dus 20 % Retrigerators. dis 20 % Retrigerators. dis 30 @ 33 ½ % G. N. Pierce & Co. dis 33 % % Challenge Beer Coolets. dis 35 %	Seymour's, List, Dec., 1881 dis 60 % Heinsch's, List, Dec., 1881 dis 60 % Heinsch's Tailor's Shears dis 334 % Mass. Cutlery Co. St. Trimmers dis 75 %	1
Challenge Beer Coolers	Cast Steel Trimmers. dis 80 % Wiss, J., & Sons' Isit, Dec., 1881. dis 60 % Wiss, J., & Sons' Tailors' Shears. dis 50 % Sheaves. dis 50 %	
Rivets and Tinned	Sheaves. Sliding Door, M. W. & Co., list	1
Nos. 7 8 9 10 11 12 13 14 15 \$\psi\$ \$\mathbf{n}\$.49\$ 50\$ 50\$ 50\$ 50\$ 50\$ 50\$ 50\$ 50\$ \$\frac{11}{2}\$ \$\mathbf{n}\$ \$\mathbf{n}\$ \$\mathbf{n}\$\$ \$	Sliding Door, Russell's Anti-Frictiondis 60&10&2 \$ Sliding Door, Moore's Anti-Frictiondis 60 \$ Sliding Shutter, R. & E. listdis 50&10&2 \$ Sliding Shutter, R. & E. list	
Reds.—Stair, Brass		1
Repe	L. & I. J. White	
Manila	Old Colony. dis 15 % Groom Shovel Co. dis 20 % Hussey, Blans & Co. dis 20 % Lehigh Mg. Co. dis 20 %	数
Sisal	L. & I. J. White.	the state of the s
Mules. Boxwooddis 75&10&10 \$	Rowland's Black Irondis 50&10 %	N STEER
VOIY. ad Irons.	Shovels and Tongs. Iron and Brass Head, R. & E. list	*
frs. Pott's Irons, Double Pointed dis 35 % frs. Pott's Irons, Square Back. Enterprise Star Irons, new list, July 20, 1883. dis 35 % Dombined Fluter and Sad Iron & dos. \$15.00, dis 15 %	Square Frames, by casedis \$	1
hinese Laundry (N. E. Butt Co.)	Spoke Shaves dis 20&10 5	
Sand Paper and Emery Paper. action & Adamson's Flint. 00 to 14. 48.50 \(\pi \) ream lactor & Adamson's Flint. 3.94 \(\pi \) 43. 5.00 \(\pi \) ream lactor & Adamson's Flint. assorted. 4.75 \(\pi \) ream lactor & Adamson's Flint. assorted. 4.75 \(\pi \) ream lactor & Adamson's Batar 3.75 \(\pi \) ream lactor & Adamson's Emery \(\pi \) ream 6.50 \(\pi \) 11.50	Spoke Trimmers.	
secter & Adamson's Star	Ives' No. 1, \$15.00; No. 2, \$12.00 \(\psi\$ dos, dis 55&10 \(\psi\$ Douglass' \(\psi\$ dos \$0.00, dis 20 \(\psi\$ \) Speens \(\psi\$ dis 70&5 \(\psi\$ \)	G C
columbia Flint, all Nos	Solid Table and Tea	Table Cu Butchers' Kitchen at
Procus Cloth. # ream 18.00@ \(\) dis 20.5. New England, same list as B. & A. Fiint. dis 30&10 \(\) dage's. dis 30&10 \(\) Haab Cord.	Hoimes	
Common \$\psi\$, 12% \$\phi\$ 13\$ net Patent \$\psi\$, 154 \$\phi\$ 16\$ net White Cotton Braided \$\partial 33\pmu \phi \pm in the partial properties of the part	Tin (P. 8. & W.), Teas. \$1.35 \text{ # gro net} Tin (P. 8. & W.), Tables. \$2.00 \text{ # gro net} Tin (Cowles Hdw. Co). dis 10 \(\frac{1}{2} \) Tin (Cowles Hdw. Co.). case lots. dis 30 \(\frac{1}{2} \)	
Finals Cord	Squares. Sheel and Iron dis 50&10&2 \$ Full cases, Nickel Plated dis 50&10&2 \$ Full cases, Nickel Plated dis 50&10&2 \$ extra 10 \$ Try Square and T Bevels dis 55&10 \$	1
Silver Lake, A Quality, Drab	Squares Squares Squares Squares Squares Squares Sheel and Iron dis 50&10&2 Squares Steel Plated Squares	
pring Lake	Stone.	
Jank's No. 1, \$10.00; No. 2, \$8.00 \tilde{\pmatrix} grass	Stone	
aminond's Window Springs. dis 25 % forthus Window Springs, Bo.1 \$10.00 \(\text{# gross. dis 15 } \) Common Sense, Japanned, Coppered and Bronsed. \(\text{# gross. \$5.00 net} \)	Arkansas Stone, No. 1, 6 to 9 in	F-13
Common Sense," Nickel Plated # gross \$12.00 net Universal dis 30 % campshall's Gravity dis 50 % cempshall's Model. dis 50&10 %	Lake Superior Slips (Chase)	
'ayaon's Perfect. dis 50&10 % 'lugunin's "New" and "Improved Screw" Bal-	Joseph Dixon's.	1
Gray Iron, February, 1884, list	Stave Foliasa	The
Nash Weights. solid Eyes, in 500 b loss and over \$ 3 1346 @ 1346	amall, \$8; No. 3, nedium, \$4.	

Tuncks, Brads, &c. New List, Sept. 1, 1882. Tinned Swedes Tacks. dis 30 \$ Tinned American Cut Tacks. dis 20 \$ Tinned America	Parallel, Fisher & Morris Double Screwdis 15&10
Tipped Swedes Tacks	Parallel, Stephens'dis 26 9
Tinned American Tacks	Parallel, Fisher & Morris Double Screw dis 10x10 Parallel, Stephens' dis 25 Parallel, Parker's dis 20 Parallel, Wilson's dis 50 Parallel, Wilson's dis 50 Parallel, Bonney's dis 15x20 Parallel, Bonney's dis 15x20 Parallel, Bonney's dis 15x20 Parallel, Sargent's dis 60x10 Parallel, Backus and Union dis 40 Parallel, Double Screw Leg dis 15x20 Parallel, Parentis dis 20x10 Parallel, Peretis dis 20x10 Parallel Double Screw Leg dis 20x10 Parallel Double Screw Leg dis 20x10 Parallel Double Screw Leg dis 20x10 Datallel Peretis dis 20x10 Parallel Double Screw Leg dis 20x10 Datallel December dis 20x10 Datallel December dis 20x10 Datallel December dis 20x10 Datallel dis 20x10
Swedes Tacks, all kinds dis 30 4	Parallel, Howard'sdis 40 5
American Cut Tacksdis 30 %	Parallel, Bonney'sdis 33½ 5
Swedes Hungarian Nailsdis 30 %	Parallel, Merrill'sdis 15@20 ;
Gimp and Lace Tacksdis 30 %	Parallel Rackus and Union dis 40 5
Gimp and Lace Tacks, Tinneddis 30 5 00	Parallel, Double Screw Legdis 15&10
Finishing Nailsdie 25 3 3	Parallel, Prentissdis 25
Common and Patent Brade	Parallel, Simpson's Adjustable
Basket Nails die 20 %	Parallel, Double Screw Leg. dis 108-10 parallel, Prentiss. dis 25 parallel, Simpson's Adjustable. dis 26 dis 40 saw Filers, Honney's. \$\pi\$ dos \$15.00, dis 30 st. \$\frac{1}{2}\$ dis 20 \$\cdot 10 st. \$\frac{1}{2}\$ dis 20 \$\cdot 10 st.
Brush Tacksdis 20 \$ M	Saw Filers Hopkins'. # dox \$17.50, dis 10
Clear Box Notice Tacksdis 20 %	Saw Filers, Readingdis 40&10
Chair Nailsdis 20 %	Cowell Hand Visco
Double-pointed Tacksdis 70&10&10 \$	Richardson's Vise and Anvil dis 25
Tap Borers.	Washer Cutters.
Double-pointed Tacks	Washer Cutters. Smith's Patent. F dos \$12.00, dis 20&10&10 Johnson's. F dos \$11.00, dis 334; Penny's. F dos \$11.00, dis 334; Penny's. F dos \$10.00, dis 60&10 Bonney's. Washers. See Nuts and Washers. Well Wheels. Wrought Staples, Hooks, &c.,—See Hooks. Wire. Brass and Copper, new list, Jan. 18, 1884
Ives' Tap Borers	Johnson's
Enterprise Mfg. Codis 20&10 \$	Appleton's W dog Pol. \$14; Jap'd, \$10. dis 80; 10.
Tanas Wassersine dis 20&10 %	Bonney's
American.	WashersSee Nuts and Washers.
Springdis 40 \$	Well Wheelsdis 00% 10
Chesterman's Regular list dis 25 %	Wire.
Tin Case	Brass and Copper, new list, Jan. 18. 1884dis 20
Chesterman's Regular list dis 25 % Thermometers Tin Case dis 80 % Transom Lifters dis 80 % Wollensak's Patent dis 35 % Reiher, Imp. Lifter, list, Oct., 1833 dis 5845 % Excelsior dis 5041042 % Tobacco Cutters dis 5041042 % Tobacco Cutters dis 20410 % dis 20410	Market, Bright and Annealed, Nos. 0 to 18dis 67%
Wollensak's Patentdis 35 %	Market Galvantsed dis 55
Excelsion Lifter, list, Oct., 1883dis 35&5 %	Market, Tinned, Tinned list
Tobacco Cuttersdis 50&10&3 %	Stone, Bright and Annealed Nos. 19 to 26dis 70
Enterprise Mfg. Co. (Champion). dia 20410 4	Stone, Galvaniand Nos. 10 to 90
Wood Bottom # doz \$10.00, dis 30&10 \$	Stone, Tinned, Tinned list
Nashua Lock Co.'s P dog \$4.50 net	Tinned Broom Wiredis 621/2
Wilson's	Cast Steel Wire
Clipper (Sargent & Co.)	Annealed Grape, Nos. 10 to 14dis 67%
Tinners' Tools and Machine dos \$30.00, dis 40 \$	Fence Staples # 10 5@5%
Machines (P. S. & W.)	Stube Staples, Galvanized # D 000%
Tobscc Cutters. Enterprise Mfg. Co. (Champion)	Barb FenceSee Trade Repor
Tools (P. 8. & W.)	Wire on Spoolsdis 55
Game, Oneida Pattern. dia 60410	Steel Music Wire, Nos. 7 to 30\$1.00 \ 1
Game, Blake's Patentdis 40&10 \$	Clothes Line Wire, Galvanized F coil 25¢ @ 40¢ ne
Mouse, Round Wire	Wire Cloth, green, drab and black, \$ 100 sq. ft.
Mouse Cage, Wire # dox \$2.50, dis 10 \$	Wyanghan American Adjustable dis 45
Mouse Catch-'em-alive dos \$2.50, dis 15 %	Baxter's Adjustable "8"dis 3314
Mouse, Delusion France \$18.00 dt. 20 dt.	Baxter's Diagonaldis 35&10
Rat. "Decoy "	Coes' "Mechanics"
Trowels Lothwore' Batch and Dr.	Coes' Pattern, Malleabledis 70&15
Reed's Brick and Plasteringdis 20&10 \$	Coes' Pattern, Wroughtdis 75
Disston's Brick and Plastering dis 20410 c	Girard Standarddis 65&10
Peace's Plasteringdia 25 \$	Bemis & Call's Patent Combinationdis 30
Lothrops Brick and Plastering .dis 20&10 g	Well Wheels. dis 60& 10 Wrought Staples, Hooks, &c. —See Hooks. Wire. Brass and Copper, new list. Jan. 18. 1884. dis 20 Market, Bright and Annealed, Nos. 0 to 18. dis 67½ Market, Coppered. dis 67½ Market, Gopered. dis 67½ Market, Galvanized. dis 50 Market, Tinned, Tinned list. dis 65½ Market, Tinned, Tinned list. dis 55 Stone, Bright and Annealed Nos. 19 to 26. dis 70 Stone, Bright and Annealed Nos. 27 to 36. dis 70 Stone, Galvanized. Nos. 19 to 29. dis 67½ Stone, Galvanized, Nos. 19 to 29. dis 67½ Tinned Broom Wire. dis 52½ Annealed Fence, Nos. 8 & 0. dis 67½ Cast Steel Wire. dis 52½ Annealed Grape, Nos. 10 to 14. dis 67½ Annealed Grape, Nos. 10 to 14. dis 67½ Fence Staples, Galvanized. # Dis 68½ Annealed Grape, Nos. 10 to 14. dis 67½ Fence Staples, Galvanized. # Dis 68½ Fence Staples, Galvanized. # Coll 25€ 6 40€ new Wire on Spools. dis 55 Steel Music Wire, Nos. 7 to 30. \$1.00 # 1.00 #
Brade's Brickdis 10 %	Bemis & Call's Brigg's Patterndis 25
Garden Garden Hasteringdis 20 %	Aiken's Pocket (Bright)
Triers. dis 50 %	The Favorite Pocket (Bright) doz \$4.00, dia 40
Butter and Cheese dis 25 g	Agricultural Wrenches Eherhard dis 3314
Penfield Block Co. in March 2000.	Boardman'sdis 25
Twine, DC D	"Always Ready"dis 25
No. 12, Flax Twine, 14 and 14 h Balls 18e 20e	Donohue's Engineer dis 25
No. 18, " and "17¢ 18¢	Wingers. Per dos.
No. 264, Mattrass, Wand W170 180	Novelty, for Common Tubs, No. 2, 10-inch\$30.00
Chalk Line, Cotton, & B Balls	Excelsior, for Stationary Tube, No. E. 10-inch 39.00
Ply Henry Mand 2 - Party Co	Excelsior, for Stationary Tubs, No. F, 11-inch 43.50
3-Ply " 1 % Balls (Spring Twine)14¢	Excelsior, with Folding Bench, No. A, 10 inch 48.00 8
S-Ply 11/6 B Balls	Universal, No. 234. 30.00
2. 3. 4. and 5 Ply Jute 16 2 Palls	Universal, No. 2
Cotton Mops-6, 9, 12 and 15 h to dos	Poerless No. 214
Triers dis 50 %	Peerless No. 33
Solid, Peter Wright'sdis 50 %	No. 99 Improved 216
V Solid Box. dis 50 % Solid. Peter Wright's. 15% Solid, Wilkinson's. 14@15¢	"Metropolitan," No. 214 30.00
C. C	Donohue's Engineer
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WHOLESALE METAL PRICES, September 24, 1884.

METALS.	ILEAD.—D b : Pipe at American
vided that no Bar Iron shall pay a less rate of d than 55%. Sheet, 11-0¢ to 15-10¢ \$\mathbb{B}\$ in prided that no Bar Iron shall pay a less rate of d than 55%. Sheet, 11-0¢ to 15-10¢ \$\mathbb{B}\$ in Band, He and Scroll, 1¢ to 14-10¢ \$\mathbb{B}\$ in Balrond Bars we ing more than 25 \$\mathbb{B}\$ yard, 7-10¢ of 1¢ \$\mathbb{B}\$ in Standard American Pig Iron. Standard American Pig Iron. Foundry No. 1 X. \$\mathbb{B}\$ ton \$30.00 @ 2. Foundry No. 2 X. \$\mathbb{B}\$ ton 17.00 @ 18	1.00 Hallett's 2.00 Cookson 3.00 SPELTER 100 lbs.
No. Scotch Pig Iron.	American, of Bergenport. 250 250 27 NC—Dut Sheet, 246 600 De casks. 600 De casks. 2inc.—Open. 2inc Tubing. 600 Fancy. Scotch and E
Steel, at Eastern mills \$\pi\$ ton 27.00 @ 28 Old Rails, Ts \$\pi\$ ton 17.00 @ 18	
Wrought, V ton, from yard 19.00 @ 20 Har Iron from Store.	SWITTER TO
Common Iron: ½ to 1 in. round and square 1 to 6 in. x½ to 1 in ¼ to 2 in. round and square ½ to 2 in. round and square 1 to 6 in. x½ to 1 in 1 to 6 in. x½ and 5-16 Bods — ½ and 11-16 round and aq. ½ b 2.10 @ 2.5 Bands — 1 to 6x-16 to No. 12 Burden's Best "Iron, base price Burden's "H. B. & S." Iron, base price Burden's "H. B. & S." Iron, base price 54 @ 2.5	Charce
Sheet Iron from Store. Common R. G. American. Cleaned Nos. 10 to 16	Nos 16
Nos. 10 to 16.	Cents 14 Nos 27 Cents 28 Nos. 16 to 18 19 to 26 27 to 36 Galvanized Ste
Galvanized, 21 to 24.	Cast Steel, Ste Bras Old Engli All Nos. to No.
STEE1.—Dury: Ingots, Bars, Sheets, &c., va ued at \$\psi\$ \$\pi\$ or less, \$5 \(\xi\) ad, val.; valued abov \$\psi\$ and not above \$1\pi\$ \$\pi\$, \$2\pi\$ \$\pi\$; valued abov \$\psi\$ and not above \$1\pi\$ \$\pi\$, \$2\pi\$ \$\pi\$; valued abov \$1\pi\$ \$\pi\$, \$3\pi\$ \$\pi\$ \$\pi\$. \$\pi \pi \pi \pi \pi\$ \$\pi\$ is valued abov \$\pi\$ \$\pi\$, \$\pi\$, \$\pi\$ \$\pi\$ \$\pi\$. \$\pi \pi \pi \pi\$ \$\pi\$ is addition to ordinary hot rolling, \$1\pi\$ \$\pi\$ in addition to above; \$\pi\$ steel Circular Saw Plates, \$1\pi\$ \$\pi\$ in addition to the above.	inclusive No. 17 and 18. 19 and 30.
Winelican cass secon	4 98
For American Steel, see Pittsburgh quotations. English Steel. Best Cast. Extra Cast. Ext	** 32. ** 35. ** 35. ** 35. ** 37. ** 38. ** 39. ** 49. ** Spring Wire, ened Wire, 3 cet and Half-Roum Wire. Fancy W Round Wire. Fancy W Round Wire. cents per pour Spools or more ** TISCELLA
Charcoal Tin Plates. IC 10x14 225 sheets 79 box \$5.50 @ \$6.30 IC 10x12 IC 20x28, 1 " 11.00 @ 12.70 IX 10x14 225 " 7.00 @ 8.00 IX 12x12 IX 10x14 225 " 7.00 @ 7.70 DC 1324x17, 100 " 5.25 @ 5.72 X 1224x17, 100 " 5.25 @ 5.72 each additional X add " 1.50	14 & 34, Warran Extra. No. 1 Refined No. 2 Extra wiping Extra wiping Iron and Tinned In bulk, new is Copper Rivets a Nos. 7 8 9 B 49¢ 50
Coke Tin Plates. Best. Ordinary.	American Screw
C 10x14 Best. Ordinary.	R. & E. Mfg. Co
Terne Plates. Prime Char, 2d. quality Coke. IC 14x30 M. F. 7.25	26 x 36 to 36 x 44
IXX 14x26, 2 sheets for No. 7, 112 sheets. \$13.50 IXX 14x28, 2 " No. 8, " 6 14.50 IXX 14x28, 2 " No. 9, " 6 16.50 IXX 14x31, 2 " No. 9, " 6 16.50 COPPER, — DUTY: Pig, Bar and Ingot, 4¢: Old	30 x 56 to 34 x 56 34 x 58 to 34 x 60 36 x 60 to 40 x 60
COPPER.—DUTY: Pig, Bar and Ingot, 4¢: Old Copper, 8¢ № B. Manufactured (including all articles of which Copper is a component of chief value), 35 x ad valorem. Ingot, Lake	Sizes. 6 x 8 to 10 x 15.
articles of which Copper is a component of chief value), 35 % ad valorem. Ingot, Lake	30 x 52 to 80 x 54.
Segment and Pattern Sheets 62 25 ¢ Locomotive Fire-Box Sheets 62 23 ¢ Sheathing Copper, over 12 oz. 19 So. ft. 62	90 x 36 to 34 x 56. 34 x 58 to 34 x 60. 36 x 60 to 40 x 60. Sizes above—\$1 All sizes above ing more than 6 in the 84 united
Copper Bottoms 62 29 ¢ Nickel-Plated Sheathing 63 5 ¢ "for boilers 63 7 ¢	per cent. will be inches wide. Dis
Plating extra	PAI (Deal
14x48, by the case	White Shirt Cuttin Mill Assorted Whi Unbleached Musli City Whites, No. 1 New Canton Flam New Seconds, ligh dar!
2 and 16 oz. and heavier. 35# By the case. \$\psi\$ 18 4# 12 oz. and lighter	No. 9 Whites. Cotton Canvas No. Seconds, City No. Seconds, City No. Seconds, City No. Seconds Rope. Tarrecurve Bacring.
12 og	Gunny Bagging, No Kentucky Bagging Burlap Bagging, No

BRASS AND GERMAN SILVER.

Brown & Sharpe's Gauge the Standard for Metal; Old English Gauge the Standard for Wire.

ellow Sheathing Metal, P D

Sheathing Metal.

TAL PRICES, Se	pt
LEAD.—DUTY: Pig, \$2 \$100 \$b\$; Old Lead, \$6 \$b\$; Pipe and Sheet, \$6 \$b\$ \$b\$. American. Bar	16# 16# .50 4# .9e bu.
Fancy Scotch and Extra Patterns. BABBITT METAL. N.P. U	38 36 44 18.
Stone or Weaving Wire.	X E
Brass and Copper Wire. Old English Gauge the Standard.—Dis 50. Gildin Common High Low and	D
Common High Low and Opper	e T E M
inclusive \$0.32 \$0.36 \$0.3 No. 17 and 18 22 \$2 \$0.36 \$0.3 No. 17 and 18 22 \$2 \$1.30 \$2.30	B B B B B B B B B B B B B B B B B B B
Extra 1134 @ 1134 @ 1134	manual
merican Screw Co.'sdia. 60 \$	-
PRENCH GLASS.	M
Prices current per box of 50 square feet. List, September 8, 1884. Single Thick.	
Sizes Size	P
Double Thick. Sizes. 1st. 2d. 3d. 4th.	Cha
X 8 to 10 X 15. \$12.00 \$10.75 \$10.00 \$9.00	Pate and Boo A tail Sk just
Sizes above—\$15 per box extra for every 5 inches. All sizes above 52 inches in length, and not makg more than 81 united inches, will be charged the 84 united inches bracket. An additional 10 or cent, will be charged for all Glass more than 40 ches wide. Discount 90 to 60&5 %.	ton Ch met. No and En New ever Or each

PAPER STOCK, &c. (Dealers' Selling Prices.)

Shirt Cuttings, No. 1. No. 2.

		-
4	Binders' Board Cuttings 146	101
3	PAINTS, OILS, &c.	
40	Paints.	
10 9	Biack, Lamp—Coach Painters' # 22 @ 5	6
.79	" Ivory Drop, fair	53
141	" Chinese dry	5
.50	Ultramarine 18 @ 3 Brown, Spanish 11	0 40
.94	Green Chrome	3
ba.	" in oilgood, 30¢; best, 3	5
D.	Iron Paint, Bright Red. # 13	8
0 %	" Purple " 63 Ground in oil, Bright Red. " 63 " Red. " 53	61
.27 .88	60 " " Brown " 55	60
.38 .36	Mineral Paints	44 04
	" Venetian (Eng.) dry	70
44	" in oil asst'd cans, 11¢; kegs, " Indian Dry	24
	Sienna, American Raw, powdered	10
18.	" In oil) q
16	Umber, Burnt, powered4@	34
*	" Raw, powdered314 @ 74	ĕ
×	Vermilion, Chinese	14
×	English	6
5	White Peris Profile Prime in oil	4
XX	" Indian Dry	5
×	Yellow Chrome	8.8.2
	Zinc White, Amercan No. 1, dry	24.3
36 36	" French (Paris Dry)	00
	Oils.	
*	Boiled, " "	
8	Sperm	8
×	Signal	9
g	No. 1 Extra	100
	Drilling	1
g	Fish Oil, Pressed	8 8
е	Oils, Linseed, Raw, in casks and bis. 54 @ 55 Bolled, "57 @ 58 Bleached Whale, F gal. 6	
	Engine	1
0	Sundries. Asphaltum, Cuban	
8	Benzine \$\varphi\$ gal. 9 @ 10\$	ł
	Chalk See Block See	1
8	Asphaltum, Cuban	
	Typestings	ı
П	Gum, Copal	I
	Gum, Copal. 30e	ı
	Mineral Wool, ordinary, * b	ı
	Puntice Stone, selected Lumps,	ı
	Pine Tar, bbis	ı
1	Putty, in bladders	1
1	Rosin—Common and Good—Strained	1
1	1 & K	1
1	Pine tar, poss. Pitch \$1.70 Putty, in bladders 36 'In bulk 35c Rosin - Common and Good - Strained 31.60 E & F 11.65 @ \$1.75 G & H 11.85 @ \$2.90 I & K \$2.40 @ \$2.75 M & N \$3.45 @ \$6.00 Spirits Turpentine, \(\psi \) bbl 31 @ \$26 Whiting, Spanish 326	1
1		1
1	Waste, No. 1 White Machine. 956 Waste, No. 2 White Machine. 96 Waste, No. 1 Colored. 70 Waste, No. 2 Colored. 6346	1
1	Waste, No. 2 Colored	1



cMaster's Universal Box Strap and Corner Irons:



and on the Farm.		
McMASTER'S	SHELF	SUPPORT.
Patented Jan. 10, 1883 and patent applied for on improvement.		1
For Shelving Store Bookcases, Butteries, &c A perfect sedenum Ining Bracket.		
Shelves practically ad- ustable and guaran		1 20 4
eed to sustain 1-		- B
Cheaper than any othe nethod of shelving.	100	
No dadoing, no cleate and no nais required. Endorsed by the leading		ofe and Builder
New York, Haltimore, every place where show	rittsburg	h, Cleveland
Orders solicited from t ach of the above inven-	he Trade.	Sample package on application.
Send for circulars. QUINCY FLOOR PLAT	E AND 8	TAPLE MFG.



HERMANN BOKER & CO.,

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PICKS, MATTOCKS, GRUB HOES, HAMMERS. WROUGHT IRON STEEL FACE



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GARDNER'S 1881 Razors,

AND R. HEINISCH'S SONS'

Celebrated Tailors' Shears, Trimmers, Scissors, &c., Japanned and Nickel-Plated Every pair warranted.

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GUNS AND PISTOLS, ARMS AND AMMUNITION.

S. H. & E.Y. MOORE,

Heavy H'dware & R.R. Supplies



"CLIMAX" BARN DOOR Hangers,

BARN DOOR Hangers, FOR WOOD TRACK,

Moore's Freight Car Door Hangers,

BAGGAGE CAR DOOR HANGERS,

RAILROAD HANGERS,

Parlor Door Hangers. SEND FOR NEW PRICE LISTS

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THE NEW LGIANT DRILL CHUCK. Holds a Drill With the Grip of a Giant. All Steel.

SIMPLE IN CON-STRUCTION. EASY TO TAKE APART AND CLEAN. BEST OF WORKMAN SHIP AND VERY CHEAP. Manufactured and sold by THE SMITH & EGGE MFG. CO. Bridgeport, Ct.

BOWKER & TRIPP, The Matchless Steam and Fire Regulator. Mitchell's Adjustable Socket

Wrench. Skiff's Horseshoers' Vise. NEW BEDFORD, MASS.

S. CHENEY & SON. MANLIUS, N. Y.
MANUFACTURERS OF LIGHT AND MEDIUM WAIGHT

IRON CASTINGS. METAL PATTERN MAKERS AND JAPANNERS.

EXANDER PHILADELPHIA.

Elizabethport Steam Cordage Co., MANUFACTURERS OF MANILA, SISAL AND TARRED

CORDAGE OF ALL KINDS

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Trade

Furnace

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LEADING

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QUALITY.

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St.,

Dearborn

31

Salesroom,

Agent,

Western

BOWES,

S Shovel Patent Pettebone

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Railroad, working wear. point of the Strap completely below the line of from around the prevents Strap fitting closely positively

Back Back handle,

PATENTED ARTICLES

MALLEABLE IRON

Hammer's Mall. Iron Hand Lamps.



Screw, Kerosene Size Hammer's Adjustable Clamps. Hammer's Malleable Iron Oilers, 3 Sizes. Hammer's M. I. Hanging Lamps.

NEW pattern Heavy Screw Clamps strongest in the market. For sale by all the principal Hardware Dealers.

MALLEABLE IRON CASTINGS Of superior quality, and Hardware Specialties in Malleable Iron made to order.

HAMMER & CO., Branford, Conn.





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et

Gendron Iron Wheel Co. TOLEDO, OHIO, Manufacturers of

IRON AND STEEL WHEELS, Hay Rakes, Cultivators,

WASHINGTON NEWS.

(From Our Regular Correspondent.)

WASHINGTON, D. C., September 24, 1884. It was stated in this correspondence some weeks ago that, the President having determined not to issue to Mr. Jarrett his com-mission as commissioner of labor statistics, to which office he was confirmed by the Senate, he would be likely to discover, when he came to make another selection, that under the existing statutes affecting the tenure and appointments to office he could tenure and appointments to office he could not fill the place during the adjournment of Congress. This question has now been raised, and in such a shape that not only is the President's authority to make a new appointment at this time disputed, but when he undertakes to make the change at the proper time he will doubtless encounter some obstacles. As Mr. Jarrett was confirmed for his office, and as the President under existing statutes can only fill such vacancies. his office, and as the President under existing statutes can only fill such vacancies,
during adjournment of Congress, as may
have occurred from death, resignation or
inability to serve, he has no alternative but
to have Mr. Jarrett die, resign or show that
he is unfit before he can move. As the two
first conditions do not exist, and as Mr.
Jarrett's frank disparagement of President
Arthur and laudation of Mr. Blaine was but
the exercise of his inalienable right to his the exercise of his inalienable right to his own opinions, it will be necessary for Mr. own opinions, it will be necessary for Mr.
Hill, statistician of the Department of State,
or some one else, to wait a while. It is very
probable that Mr. Arthur will have some
trouble to get the Senate to confirm a new
appointment, as Mr. Jarrett would have the support of a number of Republican Senators, and the Democrats would naturally support him as against the President. It will be seen, therefore, that there is still a store of trouble in prospect on the labor commis-

THE WIRE-WOUND GUN.

It is reported at the navy yard that the 6-inch wire-wound gun will be ready for shipment to Annapolis by October i, for testing. The tube was sent here from the Boston Iron Works, and, as far as the examination by officers of the navy is concerned, is entirely satisfactory. is entirely satisfactory.

NEW STEEL-MAKING PROCESSES

In connection with a few general facts concerning Bessemer steel and manufactures therefrom, sent to the Department of State, is a reference to a modification of the Besse mer process by Alfred Davy, of Sheffield. The report says that "this apparatus will enable every iron founder to produce large or small quantities of steel for castings or other purposes, at about the cost of cast iron, and of a quality superior to most crucible steel used for castings." It is also claimed "that steel may be produced by this apparatus of any temper of quality, except, perhaps, the highest class of tool steel, in large or small ingots, at \$20 or \$22 per ton." The cost of the apparatus is said to be small. The report further states that three plants have been ordered for the United States and the introduction is very general in England.

AMERICAN LOCOMOTIVES. The minister of the Argentine Republic resident at Washington, has received most satisfactory accounts of the American loco motives which were built for the Government of Buenos Ayres, and also large orders for more of the same class. The Belgian and English locomotives, in a trial of merit, stood no comparison with the American.
The National Government, therefore, have discarded the former, and will avail itself of the progress made in this country in locomotive building.

AMENDMENTS TO THE CANADA TARIFF ACT. Under the act of the Canadian Parliament, Under the act of the Canadian Parliament, April 19, 1884, amending the "tariff of duties of customs," among the articles added to the list of free goods are iron or steel beams, sheets, plates, angles and knees for iron or composite ships or vessels, and steel for saws and straw cutters cut to shape, but not further manufactured. The following duties have been substituted for the old rates: Steel incotes hars, sheets, under 3rates: Steel ingots, bars, sheets, under 186 inch thick, whole or cut to shape, but not further manufactured, and rolled round wire rods in coils, not elsewhere specified, \$3 per ton of 2000 pounds, and 10 per cent. ad valorem. Steel rolled round wire rods, under ½ inch in diameter, when imported by wire manufacturers for use in their factories, 5 per cent. ad valorem. Stee needles and latch needles, at valorem. Steel needles and latch needles, 30 per cent. at valorem. Iron, cast-iron forks, not handled nor ground or otherwise further manufactured, 10 per cent. ad valorem.

DECISIONS IN CUSTOMS CASES. The following is a synopsis of sundry decisions rendered by the Treasury Department in customs cases during the past week: Fire bellows, composed of wood, leather and metal, metal being a prominent and important feature, are dutiable at 45 per cent. ad valorem, under Paragraph 216 (T. I., new), for articles composed wholly or in part of for articles composed wholly or in part of iron or any other metal. (Letter to collector of customs at Philadelphia.) Clock keys for winding clocks are dutiable at 30 per cent, ad valorem, under Paragraph 414 (T. I., new), for clocks and parts of clocks. (Letter to collector of customs at New York). A setural combination of mice waste and some natural combination of mica waste and scaptone, but ground, is dutiable at 10 per cent. ad valorem, under Paragraph 95 (T. I., new), for non-dutiable crude minerals, advanced in

village of from 3000 to 4000 inhabitants, domestic weaving is the chief occupation, and it has been fairly remunerative for the and it has been fairly remunerative for the last six or seven years. A large stock company sell the products of this domestic industry, which it supports not alone by the advancing of money, but promotes by premiums. In times of large orders, when the home population cannot produce sufficient, weavers are drawn from Scotland. Special-Wheelbarrows, &C.

Also Steel Wheels with Ruber Tree for Carles Write for Prices.

Happleye's Saw Jointer.

Rappleye's Saw Jointer.

Rappleye's Saw Jointer.

Happleye's Saw Jointer.

Rappleye's Saw Jointer.

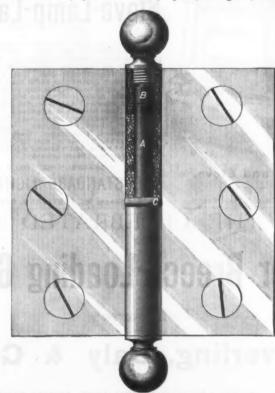
Sembles, though the weighing mechanism is different. It will be perceived that the scale has self-acting weights, the operation of made by F. A. Rappleye, Farmer Village, with the aid of the following description: In weathers and on this point geologists differ. The tunded that the scale different is sembles, though the weighing mechanism is different. It will be perceived that the scale has self-acting weights, the operation of which can be easily understood from the cut, prosperity of the industry.

N. Y. It is made of gray iron and japanned, with the aid of the following description: In

HARDWARE NOVELTIES.

A Steel-Bushed Loose-Joint Butt.

and its general arrangement is easily understood from the illustration, it being very simple in its construction, having but four The Yale & Towne Manufacturing Company, of Stamford, Conn., and 62 Reade to use equally well files of almost any shape—street, New York, have lately put on the flat, square, triangular, round, half round,



Yale & Towne Mfg. Co.'s Double Steel-Bushed Loose-Joint Butt.

market a Loose-Joint Butt of improved construction which they designate as "double steel-bushed," and which we illustrate in the accompanying cut. The improvement consists in providing two bearing points in a loose-joint butt (which is as many as fast-joint butts of the usual sizes have), and also in facing both of these with steel, thus making its durability equal, if not superior, to that of the best fast-joint butt. The following is a description of its construction: A is a steel hinge-pin rigidly inserted in the lower leaf of the butt or hinge, and bearing at its upper end against the block B. C is a steel washer surrounding the pin A and interposed between the abutting faces of the two knuckles. B is a steel block inserted tightly in the pin-hole of the upper leaf is thus borne jointly by the steel block B and washer, C, instead of by the latter only, as in other butts. All loose-joint butts manufactured hereafter by the Yale & Towne Manufacturing Company will embody this improvement. the Yale & Towne Manufacturing Company will embody this improvement.

Kitselman's Improved "Champion"



larger size made on substantially the same principle for jointing cross-cut and mill saws, with which a long, flat file is to be used.

The "Perfection" Scale.



Kitselman's Improved "Champion" Roller Skate.

special features. By actual test they advise us that it will turn in about 24 inches, while their old skate would not turn in much short of 40 inches. They also direct special at-tention to the fact that this skate has two rubbers boxed in by metallic side flanges, and a vertical tongue connected with the axle hanger, extending down between the rub-bers, making, it is claimed, a double or an equal pressure on both of them at the same time in the rocking or lateral motion of the skate. The adjustable post is so constructed as to extend under the rubber plate, and is held in position by a set-acrew, thus admit-ting of the removal of trunk and frame in-stantly, and permitting the rubber cushions value or condition by grinding, &c. (Letter to collector of customs at Cleveland, Ohio.)

In the southwest part of Yorkshire, England, and therefore near the center of the was not the case in their former style. If the old style the public regions to be replaced without removing the skate from the foot of the wearer. The point is also made that by this arrangement all the proper style is the collection of the set-screw, which was not the case in their former style. If the collection is the public relations to be replaced without removing the skate from the foot of the wearer. The point is also made that by this arrangement all the properties of the public removing the skate from the foot of the wearer. The point is also made that by this arrangement all the properties of the In the southwest part of Yorkshire, England, and therefore near the center of the largest mills of the world, hand weaving, it the chief source of subsistence of parallel with the footboard, while in this it stands at an angle of about 40 degrees. Several other improvements have also been made, so that the manufacturers feel justified in placing this article on the market with confidence that it will meet a want in the trade. Peck & Snyder, we may add, are general Eastern agents for this skate, at 126-130 Nassau street, New York.

This article, which has recently been put on the market by the American Machine Company, Philadelphia, will be recognized

the above cut 1, 2, 3 and 4 are the weights suspended on the bracket and held one above another, with regular intervals of space between them, and just above and in position to be acted upon by the weight-jack B B resting on the lever pivots. The arrangement is such that as goods are placed in the scoop the lever will turn, first raising the bottom weight off its seat A, and then adding the others one after another until the lever turns sufficiently to raise them all off their seats on the bracket, when they will be resting on the lever. The index finger is so arranged that it will move from one figure on the dial to the next at the precise time that such weight is balanced with goods and thus raised. Thus, in the cut, I pound placed in the scoop raises weight I off its seat A, and moves the index finger slowly up to the figure I on the dial. Should another pound now be added in the scoop it would raise weight 2 with the first and bring the index to the figure 2 on the dial, and so on Attention is specially. the dial, and so on. Attention is specially directed to the fact that in these weights the points at which they are supported and the points which are acted upon in raising them are in the same horizontal line, so that there is no binding to interfere with their free action. Intermediate or fractional weights are determined on the brass beam, as represented in the cut. The hood D, it will be observed, completely covers the weights, securing them in their position, so that they cannot fall off, in whatever position the scale may be turned, and also protecting them from dirt, &c. We need only add that the scale, as represented in the illustra-tion, has part of the weight case removed, the works being completely concealed by a cover. The manufacturers direct special attention to the accuracy with which this scale is claimed to weigh, obviating everweight which in some common scales is requisite to balance the scale. This article is made in the grocers' and confectioners' styles, and also with a marble slab in place of a scoop for butchers' use, and with a round pan for druggists. The five different sizes weigh from 14, 1/2 or 1 ounce to 2, 5, 11, 22 or 55 pounds.

Recent Boiler Explosions.

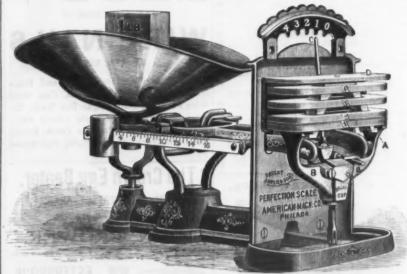
The new and immense cotton compress of the Georgia Central Railroad and Banking Company, at Eufaula, Ala., was destroyed on the 15th inst. by an explosion of the boiler, which was followed by a destructive con-flagration. A number of lives were lost,

and many persons were seri-ously injured. Three hundred bales of cotton were destroyed with the warehouse. Nine cars loaded with cotton and standing

on the track west of the compress were also consumed. The total loss is about \$200,000, partially covered by insurance. Every build-ing in the city was shaken to its foundation by the explosion, and the wildest excitement prevailed. One piece of the boiler weighing 4 tons was thrown 270 yards.

A terrific boiler explosion occurred, on the 16th inst., at the Lykens Valley Colliery, Pa., owned by the Pennsylvania Railroad Company. The explosion occurred a little after 5 o'clock, and was heard for many miles. Had it taken place a half hour later the loss of life would undoubtedly have been great. The explosion was caused by a defective boiler. Four boilers exploded together, throwing iron and timbers in every gether, throwing iron and timbers in every direction for several hundred yards. The explosion has caused the total suspension of work at the Lykens Valley Colliery for several days. Three men were somewhat painfully injured by being bruised and scalded, and a boy was mortally hurt.

Signor Gabelli, civil engineer, has published in a recent official report his ideas on uniting the Island of Sicily with the Italian Peninsula by means of a tunnel. The first thing to be considered, according to Signor Gabelli, is the conformation of the sea bottom at the straits, and he states that it is beyond all doubt that in a southeasterly and northwesterly course, starting from Pizzo, on the coast of Calabria, and ending at Sant' Agata, on that of Sicily, exists a submarine chain of mountains separating the basin of the Medi-terranean from that of the Adriatic. The sides of these mountains are very steep; in fact, while the crest of this ridge is only 110 mekg. away from it the depth attains 260 meters; in front of Messina it is 340 meters; and in the offing of Reggio 657 meters. The course of the contemplated tunnel is there-fore clearly established from these hydro-graphical conditions. It only remains to be the market by Kitselman Brothers, Ridge-ville, Ind., by whom it is manufactured. Several improvements are embodied in it, and the manufacturers direct attention to its. Conn., which in general appearance it re-paratives. By actual text they edvice.



The "Perfection" Scale.

Probably every man, says the Locomotive, who owns or has run a boiler has experienced a vast deal of trouble with the castiron mouth-pieces around the furnace doors.

These pieces invariably warp, crack and burn out in a short time, and the fire-brick lining falls down, the cast-iron front becomes burned, and, where the boilers are set with the flush front setting, the portion of the shell which projects beyond the front tube sheet gets overheated, which generally results in its fracture, and in many cases the longitudinal seam where the head is attached to the shell is so severely strained that it begins to leak, and sometimes this leakage is very difficult to stop, owing to the joint being permanently strained. This warping and burning away of these castings may be pre vented by simply slitting them back from the edge for about one-half their depth. The slots should be from ½ to ¾ inch in width, and may be from 8 to 12 inches apart over the furnace door. This width is necessary, as they close up gradually under the influence of the intense furnace heat.

To provide storage for the stock of silver at Washington an additional vault has been constructed in the basement of the Treasury Department, directly underneath Treasury Department, directly underneath the cash-room. This vault is 31 feet 4 inches wide, 55 feet 4 inches long and 9 feet 4 inches high. It will hold 50,000,000 silver dollars, which represents in bulk 1790 tons. The walls, ceilings and floor are constructed of three chilled-iron and two steel plates riveted together, thus making the metal case which forms the defenses of the vault over 2 inches in thickness. The foundation of the vault rests upon the earth, and the iron and inches in thickness. The foundation of the vault rests upon the earth, and the iron and steel flooring is laid upon 12 inches of hydraulic cement to guard against entrance by means of a tunnel. The two doors by which entrance is obtained are massive and very strongly constructed, one key being kept by Treasurer Wyman and the other by Cashier Whepley.

Whepley.	-
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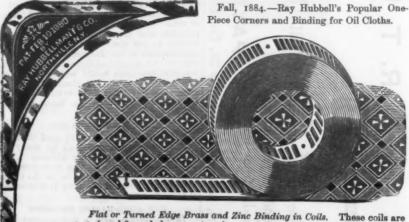
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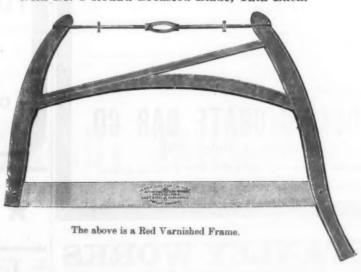
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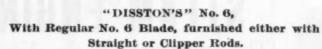
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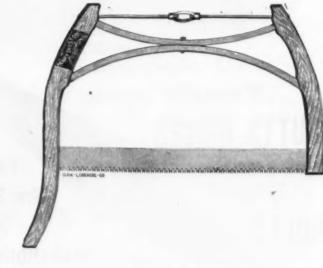




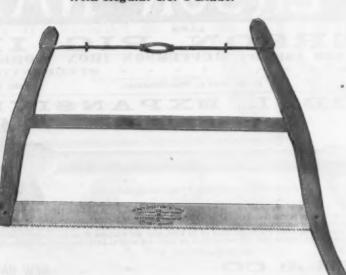
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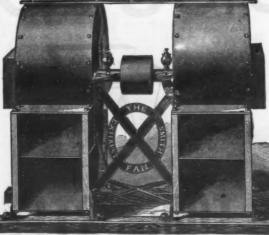
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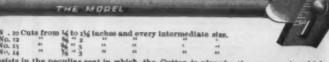
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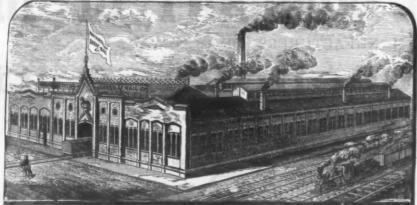
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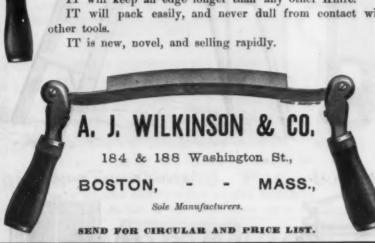
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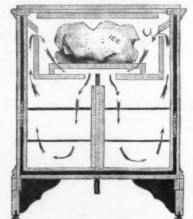


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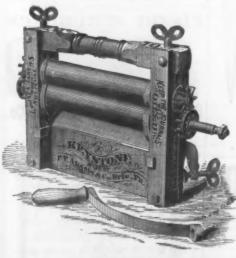
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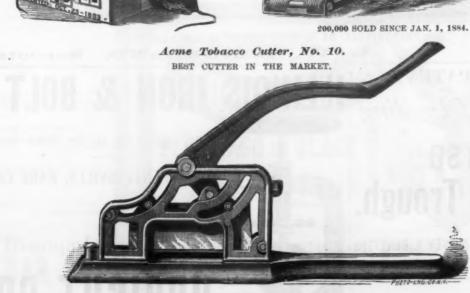
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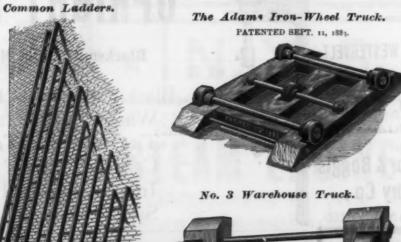
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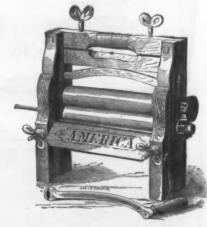




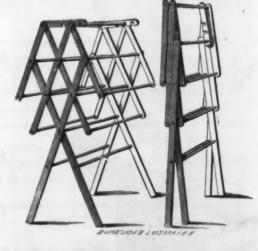
Keystone Socket Rake.



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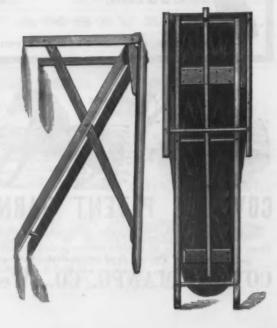
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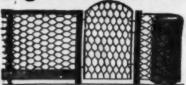
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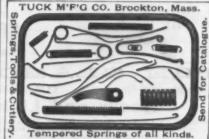




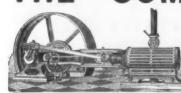
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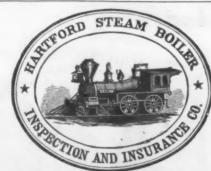
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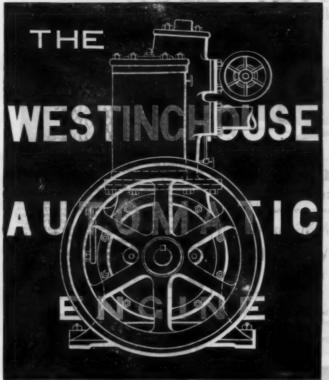
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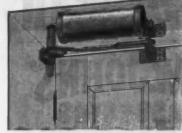


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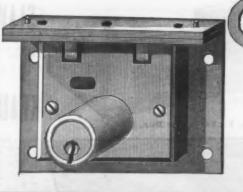
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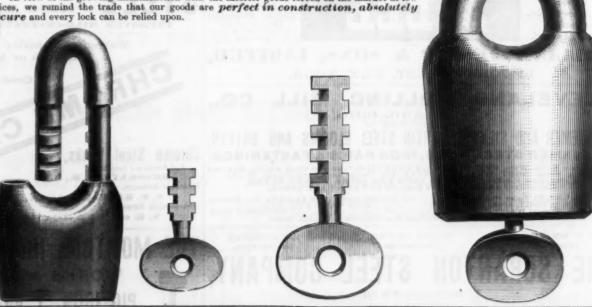
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IRON, Ironmonger Diary and Text Book for 1885

(now in course of preparation) as complete a list as possible of trade-marks, brands, specialties, &c., made and in use in all parts of the world, similar to that contained in our Diary for 1884.

This list excludes all ordinary trade announcements proper, and is strictly confined to trade-marks and brands, whether blocks, electros or other appliances for illustrations, with just sufficient letterpress to describe the kind of article to which the mark, &c., is applied, and the names and addresses of the owners or lawful users. For the sake of uniformity in space and charges, each mark occupies a space measuring 1 inch deep by 12 inches wide, and the uniform charge is \$2.50 (10s.) only for each such space, payable in advance unless we have already an open advertising account with the firm giving the order.

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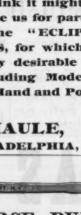
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Lloyd & Supples Hardware Co. erms, 30 days. For 60 or 90 days, interest added at 8 per cent. per annum.	8
Anvils. Feter Wright's, # D	
Anvils. 8 per cent. per annum. Peter Wright's. 8 b	95
A xcs. Hunt's Kentucky and Yankee, ♥ doz. net \$7.26 Robert Mann, ♥ doz. net 7.25 Richland Chief. 7.25 Beveled Axes. add 50¢ Double Bit Axes, net 412.00 Augers and Auger Bits.—New List, January 7. Bates' Nut Augers. dis 60 5	200,000
Double Bit Axes, net \$12.00 Augers and Auger Bits. New List, January 7. 1880. dis 60 % Cook's Augers. dis 55 % d	7
Watrous' Ship Augers	7
1880. 1880	
Bella.	V
Bevin Bros. Mfg. Co. Light Hand Bellsdis. 75 @ 75 @ 10 % Swiss Pattern Hand Bells	
Gt. Western & Kentucky Cow, new listdis. 70 % Boring Machines Upright, without AugersList, \$5,50 dis50&5 % Angular, without Augers List 6.75	*
Bolts.—Eastern Carriage Bolts, new list, June 10, 1884	
Braces.—Barber's. dis. 4045 5 Backus dis. 5045 5 Spofford dis. 5045 5 American Ball dis. 55 5	
Bevin Bros. Mfg. Co. Light Hand Bells. dis. 75 % 75 % 10 % Swiss Pattern Hand Bells. dis. 60 % Connell's Door Bells. dis. 15 & 10 % GC. Western & Kentucky Cow, new list. dis. 70 % Boring Machines. Upright, without Augers. List, 6.75 idis50 & 5 % Angular, without Augers. List, 6.75 idis50 & 5 % Bolts.—Eastern Carriage Bolts. new list, June 10, 1884. dis. 75 & 75 & 75 & 75 & 75 & 75 & 75 & 75	
Cast Acorn, Loose Fin. dis. 60&10 5 Cast Mayer's Loose Joint dis. 60&10 5 Wrought Loose Fin. dis. 60&2\(\frac{1}{2}\) \(\frac{1}{2}\) \(\fra	FI
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Parker dis. 70&2 \$ Parker dis. 70&2 \$ Clark dis. 70&10&2 \$ Shepard dis. 70&10&2 \$ Shepard dis. 70&10&2 \$ Shepard dis. 70&10&2 \$ Lull & Porter dis. 90&10 \$ Huffer's dis. 50 & 55 \$ Classers.—Bed (new list July 1, 1880) dis. 50 & 55 \$ Plate dis. 50 & 55 \$ Classers dis.	14
Chains, -German Halter and Coil, list June, 1884	1111
Galvanised Pump dis. 50 @ 55 % Best Proof Coil Chain—English. D 12 834 734 034 6 534 gold.	10000
Galvanized Pump. dis. 50 & 55 × 65 × 75 net Best Proof Coli Chain-English. To 74 net Best Proof Coli Chain-English. To 74 net Best Proof Coli Chain-English. To 74 net Best Proof Coli Chisels. Scoket Firmer. dis 70±10 × 80 × 10±10	4 07.6
Coffee Mills.—Box and Side (new list Jan. 1, 1880).— dis 50 g. Enterprise.—dis 20210 g. Cutlery.—Walden Pocket.——new list net Pennsylvania Knife Co.——new list net Landers, Frary & Clark, J. Russell & Co., Lamson & Goodnow Mig. Co. and Meriden Cutlery Co., Manu-	N 57.67
Drawing Knives.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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Burnished dis. 60&10&10 \$ \$\tilde{\text{q}}\text{ doz}\text{ \$3.00 } 3.75 \ 4.25 \ 4.75 \ 5.25 \ 6.00 \ 7.00 \ 8.00 \ 9.00 \$ \$\text{No}\text{ \$6.00 } 7.00 \ 8.00 \ 9.00 \$ \$\text{No}\text{ \$6.75 } 8.25 \ 4.55 \ 4.55 \ 8.76 \ 8.25 \ 8.76 \ 8.76 \ 8.25 \ 8.76 \	811
Nicholson	1
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Hammers. Maydole Hammers. Howell A. E. Nail Hammers. Handles. Disston Loop Handles Cross-Cut. Boynton Loop Handles Cross-Cut. Slø pair net Hatchets.	1111
Yerkes & Plumb, new listdis 40 %	11111
Hinges. Strap and T. Strap and T. Horse Naths. Nos. 5 6 7 8 9 10 Horse Naths. Nos. 5 6 7 8 9 10 Globe. 96 53 21 90 19 18 dis 10&5 8 Vulcan. 96 53 31 90 19 18 dis 12 1/6 8 Ausable. 30 27 25 34 23 22 dis 25&210	1111
Ausable	200000
Saranac	1111
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American Andrews American Andrews American Andrews American A	11000
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Tubular No. 0, \$7.50; No. 1, \$0.00 \times dos not Guards, \$60 \times extra. Lawn Mowers.—Pennsylvania	99999
Pennsylvania Patterndis 50&10 %	- Academic
Molasses Gates. Enterprise Mg. Co.'s Measuring Fauceta.dis. 20&10 g Stebbins' Gates	T T
Ment Cutters	1
Hale's. new list, dis. 00, 1042 cash American dis Stuffers. dis. 40 g Enterprise Stuffers dis. 25 g Planes.—Sandusky Tool Co. dis. 20410 g Ogontz. dis. 25410 g Ohio and Auburn dis. 50410 g	981
Figures - Sandard 1 dis. 254-10 2 Ogonics - O	A NIMIN
Butcher's. \$6.00 @ 5.25 to 2 Plumbs and Levels. \$6.00 @ 5.25 to 2 Stanley's Adjustable	2000
Picks.—New list. .00 s Raxer Streps.	2000年
Rules - Stanley Boxwood	1
Los	NNN
Scale Beams	1 2
Disston's Try Squares. dia 40 g Seythes. Golden Clipper, Damascus Blade, Boxed and Sharpened. 9 dox \$8.00 Clipper No. 10, Bronzed Blade, Boxed and Sharpened. 9 dox \$8.50 Clipper No. 5, Painted Red, Boxed and	111111111111111111111111111111111111111
Sharpened	15
Snaws, - Disston's Hand, Panel and Rip dis 20&10 g Disston's Circular dis 45&10 g Cross-Cut No. 2, Plain Tooth dis 45&10 g Cross-Cut Patent Tooth dis 45&10 g Cross-Cut Champlon Tooth dis 45&10 g	16 al 33 91
Cross-Cut Casampton tous Shovels and Spades. Oliver Ames & Sons, new list. Orifitits. Gla 50 & 50 & 10 Rowland. Sad Irpos.—4 to 10 B. By 24 & 34 Ilirs. Potts' Patent. dla 35 \$	29
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Screws	2
Round Head Iron. dis 70 % Spoons. dis 50 &5 &5 % Plated. dis 50 &5 &5 % German Silver. dis 40 &5 % Britannia, Boardman's dis 60 % dis 60 % dis 60 %	56 1-1 36 7-3
Spouns	3-1 5-3 01
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Warner Door Springs, ₱ dos. ₱2.50	Ci
Traps. Genuine Oneida—Newhouse	To
Wire, Bright or Annealed, No. 0 to 18. dis 67% 9 Bright or Annealed, No. 19 to 26. dis 70 9 Bright or Annealed, No. 27 to 36. dis 75 9 Coppered, 0 to 18. dis 75 9	Ai Fi Fi Pi Pi Si
Wire, Bright or Annealed, No. 0 to 18. dis 67% g Bright or Annealed, No. 19 to 26. dis 70 g Bright or Annealed, No. 27 to 36. dis 75 g Bright or Annealed, No. 27 to 36. dis 75 g Coppered, 0 to 18. dis 62% g Tinned Broom Wire dis 62% g Galvanized Barb Wire 74% g Galvanized Barb Wire 64% g Galvanized No. 7 to 18. Market List, dis 47% g Galvanized No. 7 to 18. Market List, dis 47% g Wringers.	Ta Pi Ce R
Galvanized. No. 7 to 18. Market List, dis 47% @ 50 g Wringers, Peerless No. 24. \$30.00 Peerless No. 25. \$38.00 Universal No. 25. \$38.00 Universal No. 25. \$38.00 Universal No. 25. \$38.00 Novelty No. 2, for common tubs. 30.00 Novelty No. 2, for common tubs. 30.00 Novelty No. 2, for stationary tubs. 30.00 Excelsior E, for stationary tubs. 30.00 Excelsior F. \$3.50	Fo Pi
Novelty No. 3, " 34.50 dozen. Excelsior E, for stationary tubs 39.00 Excelsior F 13.50	
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The following are card rates.	1 35
15 to 6 by \$ to 1 inch.	111111111111111111111111111111111111111
1 to 116 2.56 % to 9.16 2.76 2 to 98 to 396 2.76 24 to 334 3.06 % 3.76 2.06 3.16 3.16 3.16 3.16 3.16 3.16 3.16 3.1	F
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XXXX	See Pittsburgh Trade Report. Best Quality Refined Cast Steel.	
1%	Best Quality Refined Cast Steel. Square, Flat, Octagon and Round. 54 to 2 inches, inclusive	
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25	Round 5¢ 334¢ 5-16 and 24 to 3 inches 6¢ 414¢	
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3,6	Crucible Cast Steel	
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5%	Bessemer &	
1%	To 21 gauge	
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3 %	Auger and Anger Bit. 5¢ Axle Steel for carriages and wagons 5¢ Frog Points and Platee 6¢ Frog Side Bars 6¢ Frog Side Bars 6¢ Frog Lex plain (hammered) 6¢ Pick and Mattock, beveled (rolled 6¢ Retail 6¢ Retail 6¢	
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ots	Trap Spring Steel 86 Forged Crank Plns and Lathe Spindles 76 Fiston Rods, plain 97 Fiston Rods, plain 97 Fiston Rods, forged to shapes 76 Slide Bars, plain 96 Slide Bars, forged to shapes 76 Slide Bars, forged to shapes 76	
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3¢	Beveled Hoe and Shovel Steel in Bars. 54	ı
.7¢	Greene and Open Hearth.	
0¢	Spring. Descender and Open Hearth. Spring spiral and taper, cut to lengths 46 Tire, 8-16 thick and above. 3564 Toe Calk. 9564 Plow 3564 Plow 3564 Plow 3564 Sleigh Shoe. 3566 Cutter Shoe, cut to lengths and tapered 46 Scythe Back Steel 44 Grain Drill Bars 46 Grain Drill Points 46 Grain Drill Points 56 Rolling Couter Bhanks, cut and punched. 9564 Thrasher Steel. 46 Thrasher Steel. 46 Thrasher Feeth. 5566 Rolled Hammer Billets 566 Rolled Hammer Billets 566 Remarks 5604 R	
5¢	Toe Calk	ı
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8¢	Grain Drill Bars	ı
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7¢ 7¢ 8¢ .0¢	Thrasher Teeth	ı
.8¢	Terms.—Four months: 3 per cent. discount for cash, if remitted within 30 days.	١
.5€	Furnace Floor and Street here in 1918.	ı
00	Housings and Castings not otherwise specified2)46	l
10	Spindles and Coupling Boxes	ı
40	Sand Rolls and Pinions, small size	l
76	Rolling Mill Castings under 50 B	ı
06	Spur and Bevel Wheels, small	
34	Pulleys over 30 inches	
34	Engine Castings, heavy	
50	6 to in diam, to 30 in long.	1
66	25 to 24 in. diam., 15 to 72 in. long	1
8¢	After October 1, 1881, no discounts will be made at	1
60	Rolled Hammer Billets 3 per cent. discount for cash, if remitted within 30 days. Furnace Floor and Straightenine Plates 1146 Housings and Castings not otherwise specified . 23 de Guide Plates . 24 Spindles and Coupling Boxes . 24 Sand Rolls and Pinions, large size . 24 Sand Rolls and Pinions, large size . 24 Sand Rolls and Pinions, small size . 3 de Pipe Mill Castings . 3 de Pipe Mill Castings under 50 b . 4 de Spur and Bevel Wheels, large . 4 de Pipe Mill Castings under 50 b . 4 de Fulleys up to 50 inches . 4 de Fulleys up to 50 inches . 4 de Fulleys over 30 inches . 4 de Fulleys over 30 inches . 4 de Engine Castings, ight . 4 de Engine Castings, heavy . 4 de Fulleys in the full of the fulley in the full of the fulley in the full of the fulley in the fulley in the full of the fulley in the fulley in the full of the fulley in the	1
84	Strictly Pure White Lead in Oil in kegs, 64¢; in 25 h	1
9¢ 7¢ 8¢ 9¢	1# # B over keg price; assorted, I to 5 B cans, 3# #	1
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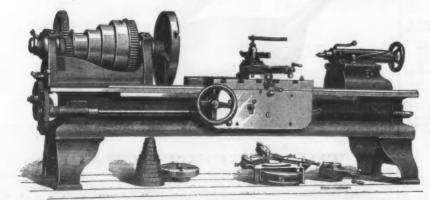
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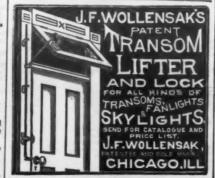
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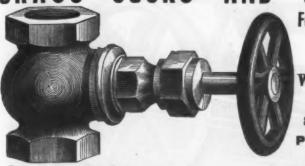
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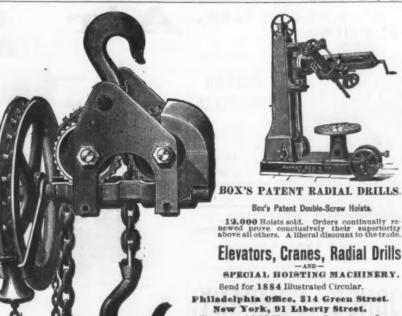
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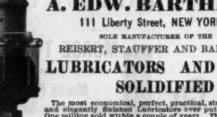
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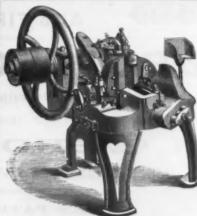


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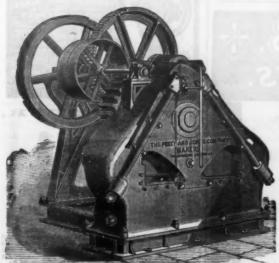
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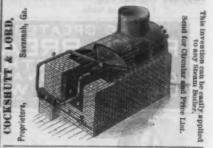
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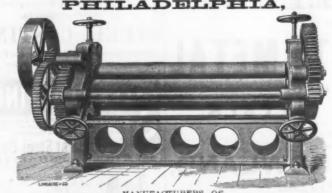


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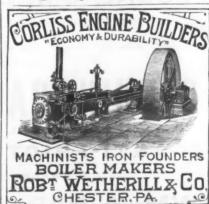
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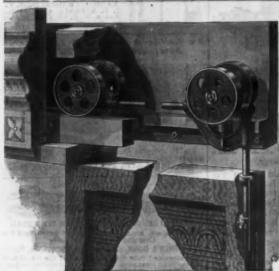
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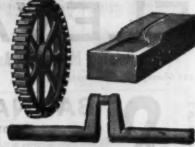
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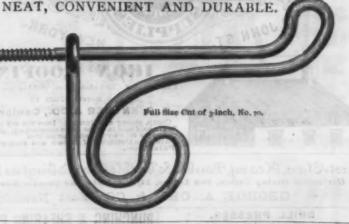
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